Grantsville City

Transportation Master Plan

DRAFT REPORT
2005

Prepared By
UDOT Planning Section
4501 South 2700 West
Salt Lake City, Utah 84114-3600

Grantsville City

Transportation Master Plan

Mayor..……..	Bryon Anderson
Councilmember's ...…….……	James Christensen Paul Rupp Robin Baird Wayne Butler Todd Castagoo
Planning & Zoning Administrator……	Shauna Kertamus
Public Works Supervisor …….	Joel Kertamus
Police Chief……..	Dan Johnson

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* If available for this study

1. Introduction

1.1. Background

Grantsville is the second largest city in Tooele County and is noteworthy for both the number and excellence of its horses and cattle, which at one time were important means of bringing much wealth into the city. Large tracts of desert land still provide grazing in the winter for livestock, and majestic homes are still standing from the earlier period of prosperity.

Located thirty-three miles southwest of Salt Lake City in Tooele Valley, Grantsville is bordered on the south by South Mountain, which divides Rush Valley from Tooele Valley; it is bordered on the west by the Stansbury Range, and to the north by Stansbury Island, both named for Captain Howard Stansbury, an early government surveyor. Across the valley floor east lies the Oquirrh Mountains.

A popular grazing area for the herds of Salt Lake Valley stockmen, including Brigham Young, in 1848 the ground on which Grantsville now stands was occupied by a herd house. Thomas Ricks and Ira Willis were in charge at Twenty Wells; but when more permanent dwellings were built by the families of James McBride and Harrison Severe in October 1850, the site was named Willow Creek. Finally, the name was changed to Grantsville in honor of George D. Grant, leader of a military force sent to control hostile Native Americans.

The city's wide main street is bordered by tall, lovely trees; but her rural lanes once lined with Lombardy poplars are dying out now that the once-filled irrigation ditches have been replaced by sprinkling systems. The climate is mild; a very deep accumulation of snow is prevented because of its proximity to the Great Salt Lake. The average summer high temperature is in the 80s; the average summer low is in the 50s; the average winter high is in the 40s; and the average winter low is in the 20s. The average water year rainfall is 11 inches of precipitation.

Incorporated 12 January 1867, the city by 1910 had a population of only 1,000; but by 1990 the figures indicated 4,480; and by 1992, 5,500. From 19.13 square miles at incorporation, the city has decreased in area to 15.63 square miles because of a request by residents in the northern part of the city for de-annexation. A city culinary water system became operational in February of 1940, using mountain water from North Willow Canyon. That pipeline is no longer in use, however; water is provided by three deep wells. A sewer system for the city was not operational until December 1971. An earth-filled dam with a storage capacity of 3,370 acre-feet of water was completed by the Grantsville Irrigation Company in 1985.

When the desert section of the Lincoln Highway was planned for construction from Granite Mountain west to Ibapah, Utah, and then to Ely, Nevada, but was then abandoned for a northern crossing (Salt Lake City to Wendover), Grantsville officially became part of that Lincoln Highway section. The road was open for travel in 1925. Grantsville's business district along that highway (U-138) recently consisted of a drugstore, a bank, a dental and medical clinic, a credit union, a hardware and grocery store, and five gas stations. Two parks are located in the town and a memorial museum contains artifacts from the Donner Party. Stock showgrounds are owned by the county, and campgrounds are found in nearby South Willow Canyon. A senior citizens' center was completed in 1984. An earlier venture by Grantsville businessmen was the investment in 1869 in a woolen mill ten miles east of the city, near present-day Stansbury Park.

The construction of the Tooele Ordnance Depot in 1943 brought employment to the area and also a population increase; consequently, a new high school was built, which became a focal point for school and public events. The school was burned, but was rebuilt in 1984; a middle school was built in 1982.

Methodists established a free mission school in 1884 and a Baptist church was completed in March 1985; however, the dominant Mormon Church has two local stakes and nine wards. A traditional social event each year, called "The Old Folks' Sociable" celebrates Grantsville's heritage.

Newspapers that have serviced the community are the Grantsville Reflex, News, Observer, and Gazette. The local news is now reported by the Tooele Transcript.

See: Alma A. Gardiner, The Founding and Development of Grantsville, Utah 1850-1950 (1984); Ward J. Roylance, Utah: A Guide to the State (1982); Amy Miller and Orrin Miller, eds., History of Tooele County, Vol. II (1990).

This information was provided from www.onlineutah.com, in an article written by Ouida N. Blanthorn.

1.2. Study Need

The Grantsville City has seen a 33.67 % population increase within the last decade and just over. 1.83 % population increase the decade before. From 1960 to 2000, the population has increased 391 %. Population in the Grantsville area has shown a substantial increase in the population These events may stimulate future growth in this area. A well-established transportation plan is needed to provide direction for continual maintenance and improvements to Grantsville City's transportation system.

Grantsville City has an adopted a General Plan. The Grantsville City General Plan briefly describes the transportation needs of this area. With the aging infrastructure of Grantsville City transportation system and the need for system improvements, a more extensive transportation plan is necessary for Grantsville City and the surrounding area.

Some of the major transportation issues around the State are as follows:

- Safety
- Railroad crossings
- Trails (bicycle, pedestrian, & OHV)
- Signals
- City interchange aesthetics
- Connectivity of roadways

- Property access
- Truck traffic
- Alternate routes
- Speed limits

Grantsville City recognizes the importance of building and maintaining safe roadways, not only for the auto traffic but also for pedestrians and bicyclists.

1.3. Study Purpose

The purpose of this study is to assist in the development of a transportation master plan for Grantsville City. This plan could be adopted by Grantsville City as a companion document to the city's General Plan. With the transportation master plan in place the city can qualify for grants from the State Quality Growth Commission.

The primary objective of the study is to establish a solid transportation master plan to guide future developments and roadway expenditures. The plan includes two major components:

- Short-range action plan
- Long-range transportation plan

Short-range improvements focus on specific projects to improve deficiencies in the existing transportation system. The long-range plan will identify those projects that require significant advance planning and funding to implement and are needed to accommodate future traffic demand within the study area.

1.4. Study Area

The study area includes Grantsville City, and land adjacent to it that is in Tooele County. A general location map is shown in Figure 1-1. A more detailed map of the study area and city limits is shown in Figure 1-2. The study area was approved by the Grantsville City Transportation Master Plan Technical Advisory Committee.

The roadway network within the study area includes I-80, SR-138, & SR-112. Each of these roadways provides a vital function to Grantsville City, to the rest of Tooele County and to the State of Utah. I-80 connects all points east and West including Salt Lake City and the Utah/Nevada State Line. I-80 is also a region commuter and commercial trucking route. SR-138 connects areas to the East from I-80 including an important route to the Tooele Valley and the City of Grantsville. SR-112 connects the area to the South. SR-138 is the Main Street in Grantsville City and serves local business and community circulation needs. From the point where SR-112 turns eastward SR-36 connects to communities to the South. These roadways along with the local road network are shown in Figure 1-2.

1.5. Study Process

The study, which began in January 2005, is proceeding as a cooperative effort between Grantsville City, UDOT, and local community members. It is being conducted under the guidance

of Grantsville City Officials. The following individuals participated in the initial meetings to provide input used to create this document. This group listed below will be referred to as the Technical Advisory Committee or "TAC" for this document.

Bryon Anderson	**Mayor, Grantsville City**
Kyle Matthews	**City Council**
Robin Baird	**City Council**
Wayne Butler	**City Council**
Paul Rupp	**City Council**
Todd Castagoo	**City Council**
Gary Pinkham	**Planning & Zoning**
Gary Fawson	**Planning & Zoning**
Rebecca Peterson	**Chairperson Planning**
Joel Kertamus	**Public Works Director**
Jodi Sandberg	**Citizen**
Sheila Hurst	**Citizen**
Derek Ellis	**Citizen**
Joe Stamer	**Citizen**
Justin Smart	**UDOT Public Involvement Coordinator**
Wayne Bennion	**WFRC Transportation Engineer**

The study process for the Grantsville City Transportation Master Plan consist of three basic parts: (1) inventory and analyze existing conditions, (2) project future conditions, and (3) development of a transportation master plan (TMP). This process involves the participation of the TAC for guidance, review, evaluation and recommendations in developing the TMP to include development of future projects for the identified study area.

The TAC will evaluate each part of the study process. Their comments will be incorporated into the study's draft final report. The remainder of the draft final report will focus on the recommendation and implementation portion of the transportation plan program. Transportation projects that will be recommended for the short-term and long-range needs will be developed based on the TAC's recommendations and concurrence.

The study process allows for the solicitation of input from the public at two TAC workshops. This public participation element is included in the study process to ensure that any decisions made regarding this study are acceptable to the community.

The first TAC workshop will provide an inventory and analysis of existing conditions and identify needed transportation improvements. The second TAC workshop will focus on prioritizing projects, estimating costs, and discussion of the funding processes.

The TAC is expected to recommend those comments that are to be incorporated into the report and applicable to the goals of this study. The draft final report and the final report will be submitted to the City for review and comments.

Upon local review of the draft report, UDOT will prepare appropriate changes and submit the final report to the City for approval. The final report will describe the study process, findings

and conclusions, and will document the analysis of the recommended transportation system projects and improvements.

Figure 1-1: Grantsville Study Area Location

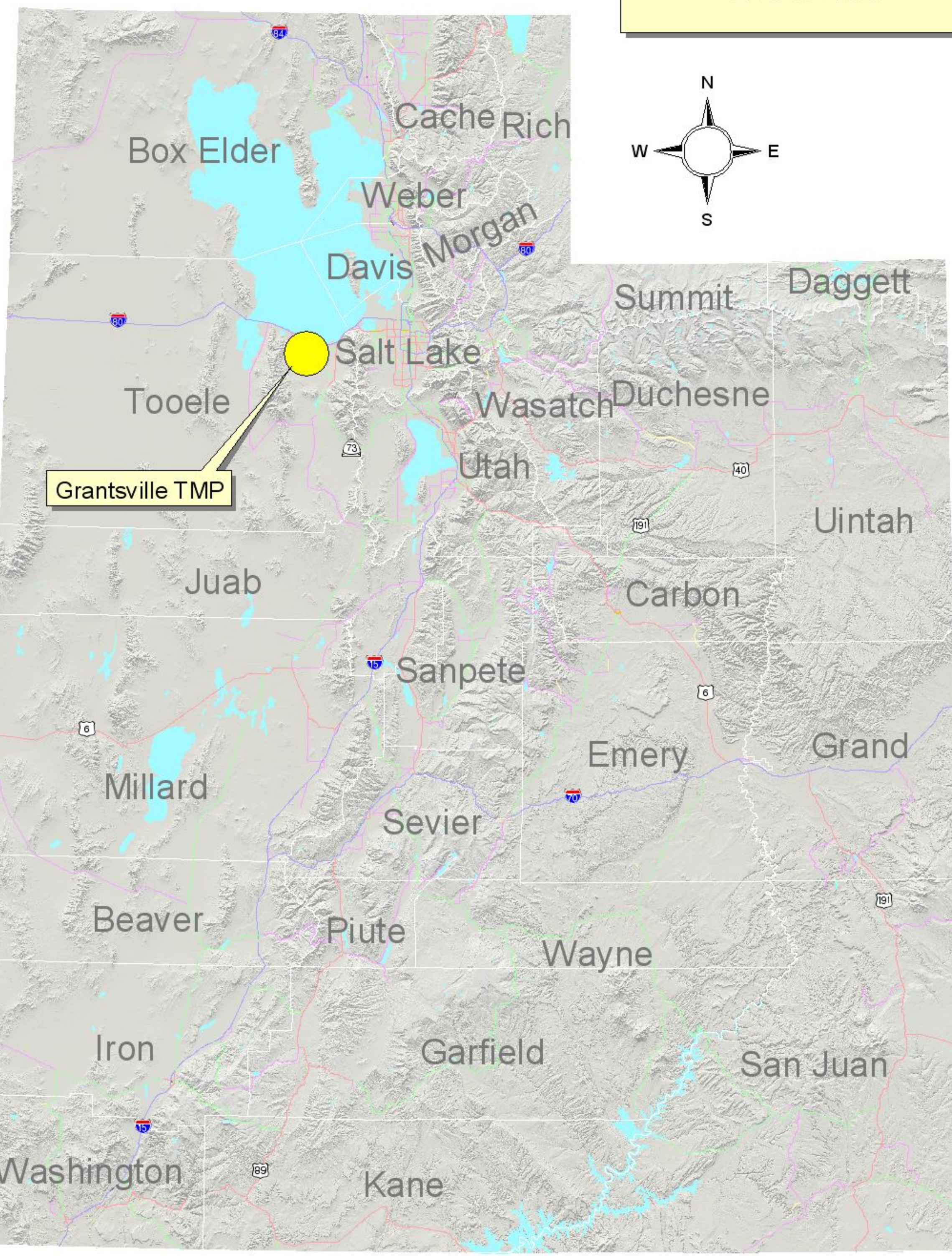
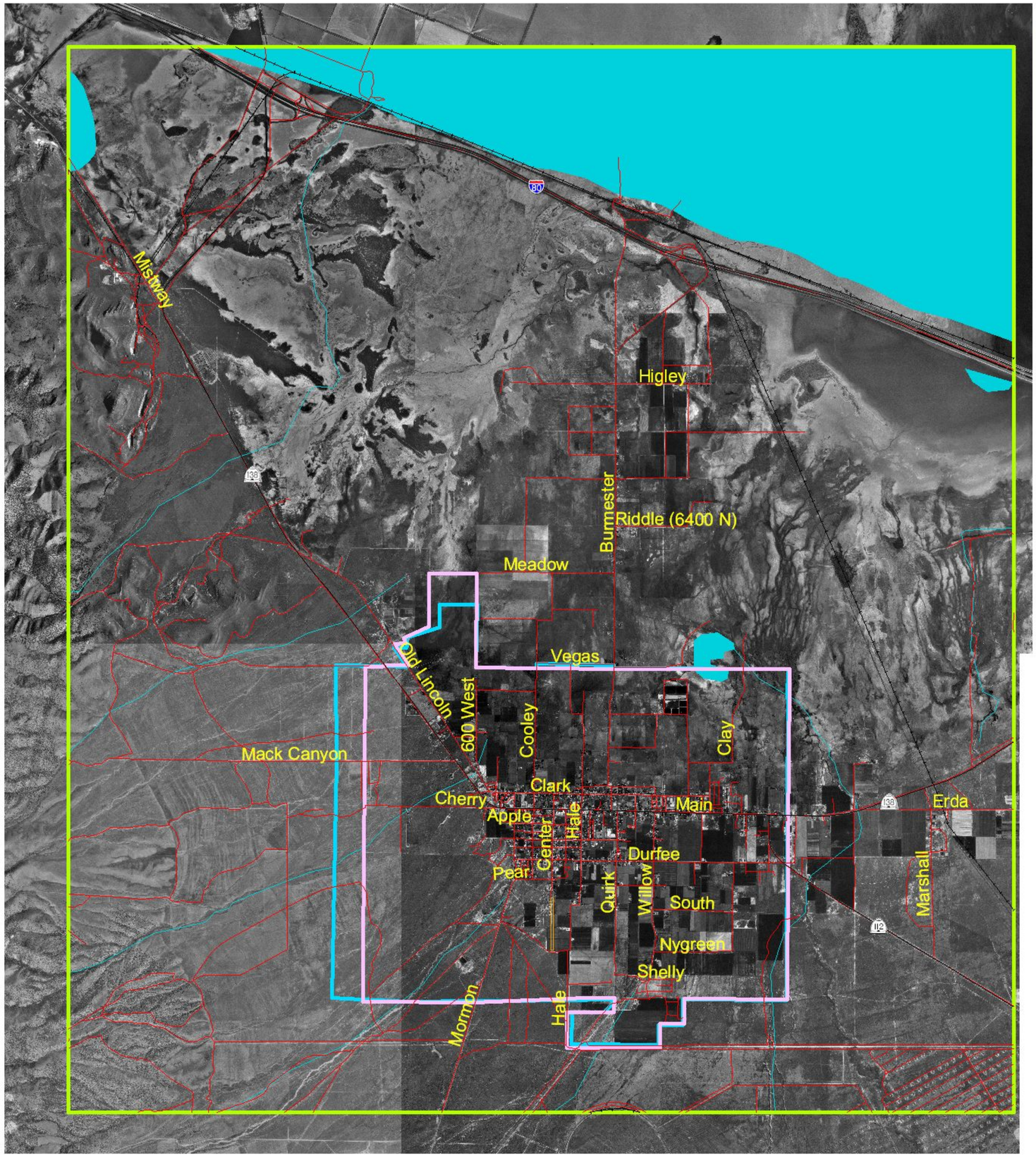


Figure 1-2: Grantsville Study Area Vicinity



N

State Roads
Local Roads
Railroad
Airports
City Boundaries
Grantsville Urban Boundary
Study Boundary
Water Courses
Water

0.5 0 0.5 1 1.5 2 Miles

2. Existing Conditions

An inventory and evaluation of existing conditions within the study area was conducted to identify existing transportation problems or issues. The results of the investigation follow.

2.1. Land Use

In order to analyze and forecast traffic volumes, it is essential to understand the land use patterns within the study area. Chapter 2 of Grantsville City General Plan outlines land use classifications and annexation plans. Much of the City is zoned Residential, but there are also many issues dealing with commercial and industrial properties. By analyzing the patterns or changes in land use, we can better predict the ever-changing transportation needs.

The Grantsville City Zoning map follows on the next page.

2.2. Environmental

In Utah there are a variety of local environmental issues. Each of the cities and counties need to look at what are the environmental issues in their areas on a case-by-case basis. There are many resources that can help local entities to determine what issues need to be addressed and how any problems that may exist can be resolved.

Some of the environmental concerns around the State are wetlands, endangered species, archeological sites, and geological sites among other issues. Environmental concerns should be addressed when looking at an area for any type of improvement to the transportation system. Specific issues mentioned in the Grantsville City General Plan are hillside erosion, wetlands, and air quality. Protecting the environment is a critical part of the transportation planning process.

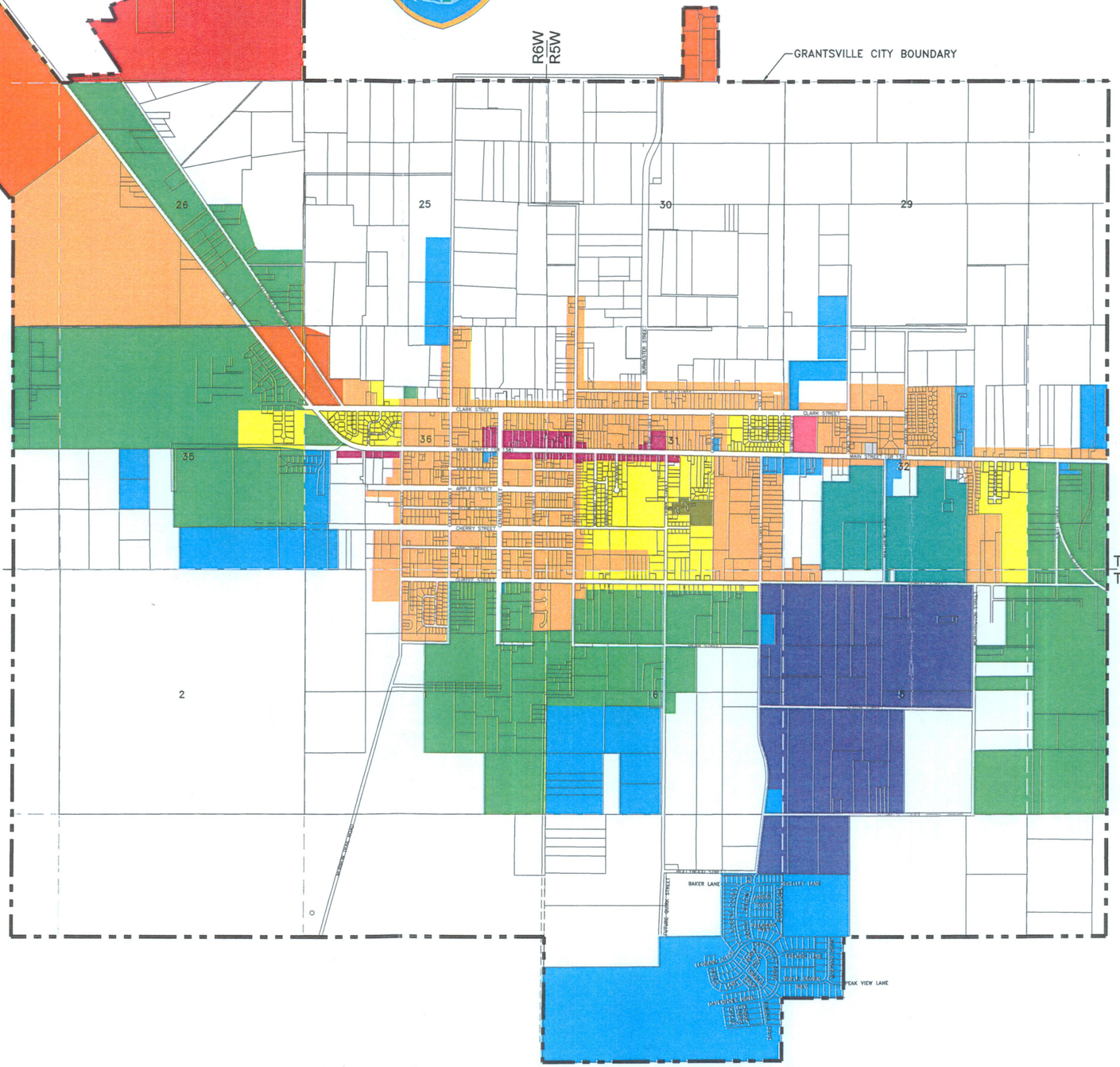
2.3. Socio-Economic (Census Brief: Cities and Counties of Utah, May 2001)

Grantsville City ranks 56th for population in the State of Utah, out of 235 incorporated cities and towns. Historical growth rates have been identified for this study, because past growth is usually a good indicator of what might occur in the future. Chart 2-1 identifies the population growth over the past 50 years for the State of Utah, Tooele County and Grantsville. Figure 5 identifies that population change in Grantsville City has ranged from 50.77% between 1970 and 1980 to gaining 1.83% between 1980 and 1990, while growth in the State has gained between 18 and 38 percent during the past 50 years.

GRANTSVILLE CITY

ZONING MAP

REVISED DECEMBER 2003



LEGEND

RESIDENTIAL

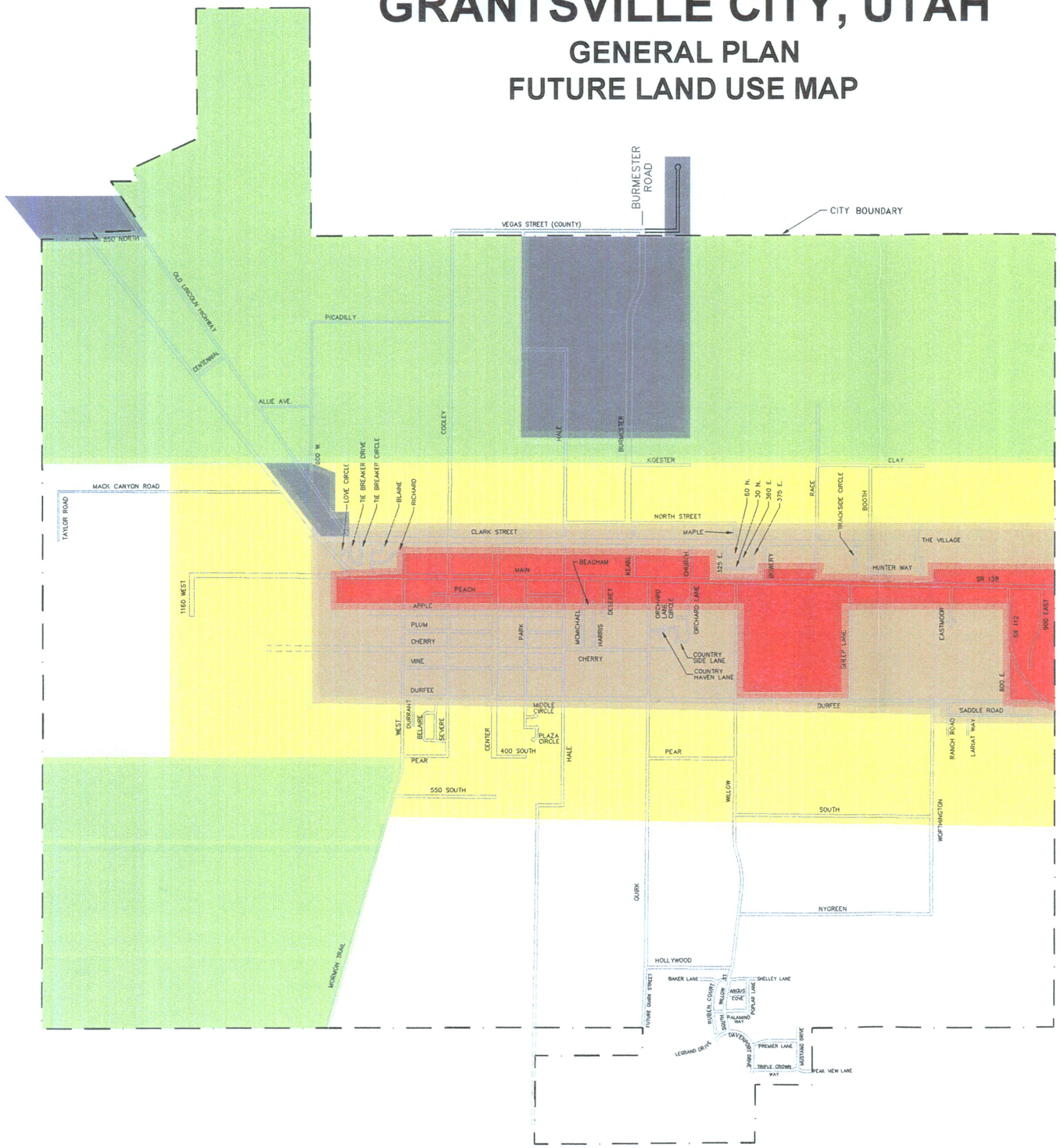
	A–10	10 ACRE LOT MINIMUM. THE PURPOSE IS TO PROMOTE AND PRESERVE CONDITIONS FAVORABLE TO AGRICULTURE AND TO MAINTAIN GREENBELT SPACES.
	RR–5	5 ACRE LOT MINIMUM. THE PURPOSE IS TO PROVIDE A RURAL RESIDENTIAL DISTRICT.
	RR–1	1 ACRE LOT MINIMUM.
	R–1–21	21,780 SQUARE FEET IN SIZE. THE PURPOSE IS TO PROMOTE ENVIRONMENTALLY SENSITIVE AND VISUALLY COMPATIBLE DEVELOPMENT SUITABLE FOR RURAL LOCATIONS.
	R–1–12	12,000 SQUARE FEET IN SIZE.
	R–1–8	8,000 SQUARE FEET IN SIZE.
	RM–15	8,000 SQUARE FEET IN SIZE. TO PROVIDE AREAS FOR MEDIUM HIGH DENSITY RESIDENTIAL.
	RM–7	7,000 SQUARE FEET IN SIZE. TO PROVIDE AREAS FOR MEDIUM DENSITY SINGLE FAMILY AND MULTIFAMILY RESIDENTIAL.
	CN	NEIGHBORHOOD COMMERCIAL DISTRICT IS INTENDED TO PROVIDE FOR SMALL SCALE COMMERCIAL USES THAT CAN BE LOCATED WITHIN RESIDENTIAL NEIGHBORHOODS WITHOUT HAVING SIGNIFICANT IMPACT UPON RESIDENTIAL USES.
	CS	60,000 SQUARE FEET IN SIZE. COMMERCIAL SHOPPING DISTRICT IS TO PROVIDE AN ENVIRONMENT FOR EFFICIENT AND ATTRACTIVE SHOPPING CENTER DEVELOPMENT.
	CG	10,000 SQUARE FEET IN SIZE. GENERAL DISTRICT IS TO PROVIDE AN ENVIRONMENT FOR A VARIETY OF COMMERCIAL USES.
	MD	20,000 SQUARE FEET IN SIZE. LIGHT MANUFACTURING AND DISTRIBUTION DISTRICT IS TO PROVIDE AN ENVIRONMENT FOR LIGHT INDUSTRIAL USES.
	MG	20,000 SQUARE FEET IN SIZE. GENERAL MANUFACTURING DISTRICT IS TO PROVIDE AN ENVIRONMENT FOR LARGER AND MORE INTENSIVE INDUSTRIAL USES.
	PUD	AN INTEGRATED DESIGN FOR DEVELOPMENT OF RESIDENTIAL, COMMERCIAL OR INDUSTRIAL USES, OR LIMITED COMBINATIONS OF SUCH USES, IN WHICH THE DENSITY AND LOCATION REGULATIONS OF THE DISTRICT IN WHICH THE DEVELOPMENT IS SITUATED MAY BE VARIED OR WAIVED TO ALLOW FLEXIBILITY AND INITIATIVE IN SITE AND BUILDING DESIGN AND LOCATION, IN ACCORDANCE WITH AN APPROVED PLAN AND IMPOSED REQUIREMENTS.
	CD	THE PURPOSE IS TO PROVIDE AREAS FOR HIGH INTENSITY PUBLIC, QUASI–PUBLIC, COMMERCIAL, OFFICE AND RESIDENTIAL USES BY CONDITIONAL USE ONLY.

AQUA ENGINEERING, INC.

TWE 03/31/2004 X:\GRANTSVILLE GENERAL\1DRAWING\Roadbase Zoning\zoning-base.dwg

GRANTSVILLE CITY, UTAH

GENERAL PLAN
FUTURE LAND USE MAP



LEGEND

LAND USE CATEGORIES

COMMERCIAL/HIGHER DENSITY RESIDENTIAL
(ALLOWING A VARIETY OF COMMERCIAL AND OFFICE USES AND HIGH DENSITY RESIDENTIAL TO A MAXIMUM OF 15 DWELLING UNITS PER ACRE)

MEDIUM DENSITY RESIDENTIAL
(ALLOWING A MAXIMUM DENSITY OF 3 DWELLING UNITS PER ACRE)

LOW DENSITY RESIDENTIAL
(ALLOWING RESIDENTIAL DENSITIES OF 2 DWELLING UNITS PER ACRE)

RURAL RESIDENTIAL – 1
(ALLOWING RESIDENTIAL DENSITIES OF 1 UNIT PER 1 ACRE TO 1 UNIT PER 10 ACRES)

RURAL RESIDENTIAL – 2
(ALLOWING RESIDENTIAL DENSITIES OF 1 UNIT PER 5 ACRES TO 1 UNIT PER 10 ACRES)

INDUSTRIAL
(ALLOWING INDUSTRIAL AND LIGHT INDUSTRIAL ACTIVITIES)

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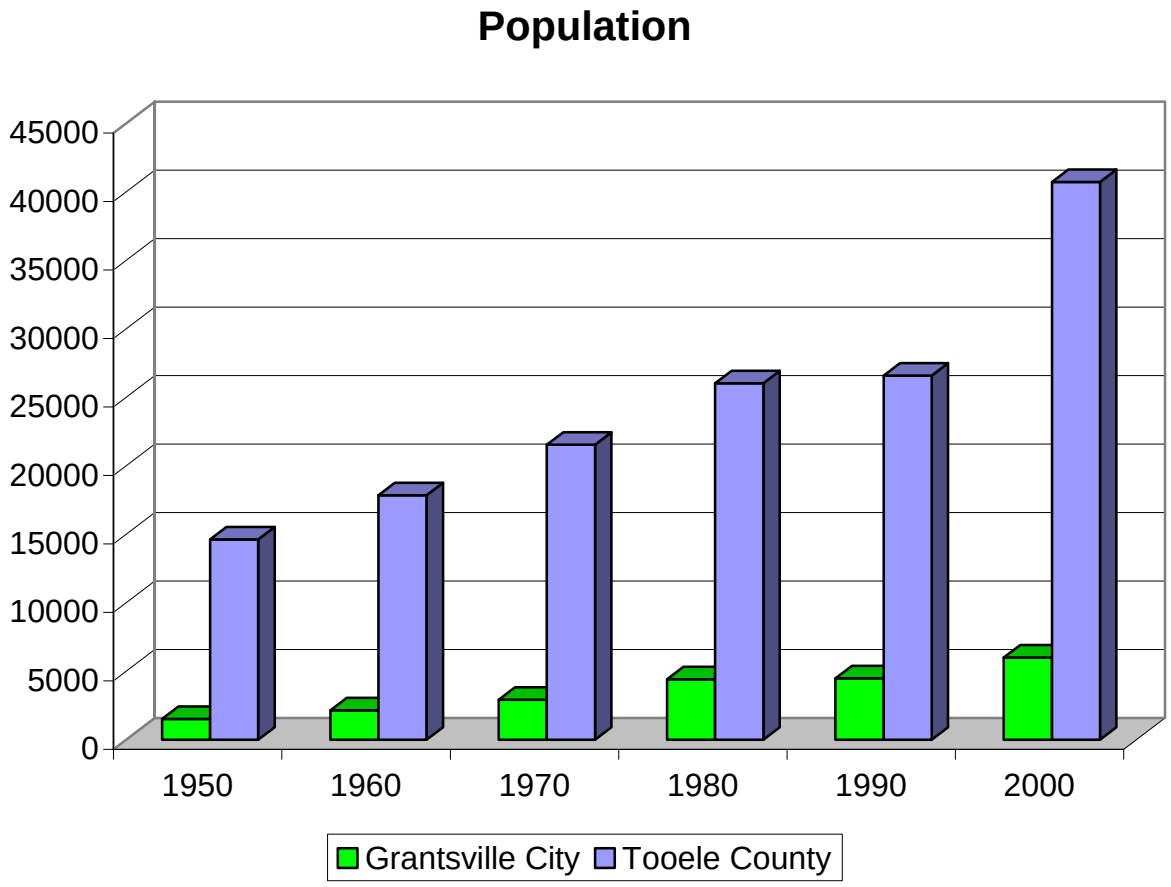
PDS

Chart 2-1. Population Data

Population			
Year	Utah	Tooele County	Grantsville City
1950	688,862	14,636	1,537
1960	890,627	17,868	2,166
1970	1,059,273	21,545	2,931
1980	1,461,037	26,033	4,419
1990	1,722,850	26,601	4,500
2000	2,233,169	40,735	6,015



Source: U.S. Bureau of the Census
http://www.govenor.utah.gov/dea/OtherPublications.html

Chart 2-2 identifies yearly population growth rates for the State of Utah and Tooele County.

Though the State population has grown every decade from 1950 until 2000, Tooele County has also showed a slower, yet consistent, rate of growth in population over the same period.

Grantsville City has some unique demographic characteristics when compared with the State, particularly with age demographics. In the 25 to 54-age category, the State is at 38.6% the County is at 39.8% and the City is at 37.6%. For the 65+-age category, the State is at 8.5%, the County is at 7.3% and the City is at 8.5%. The State's median age is 27.1 years and the County's median age is 27.1 years, City's median age is 27.3 years. Another interesting statistic is that of Veteran status with State at 10.7%, County at 14.0%, and Grantsville City at 13.1%.

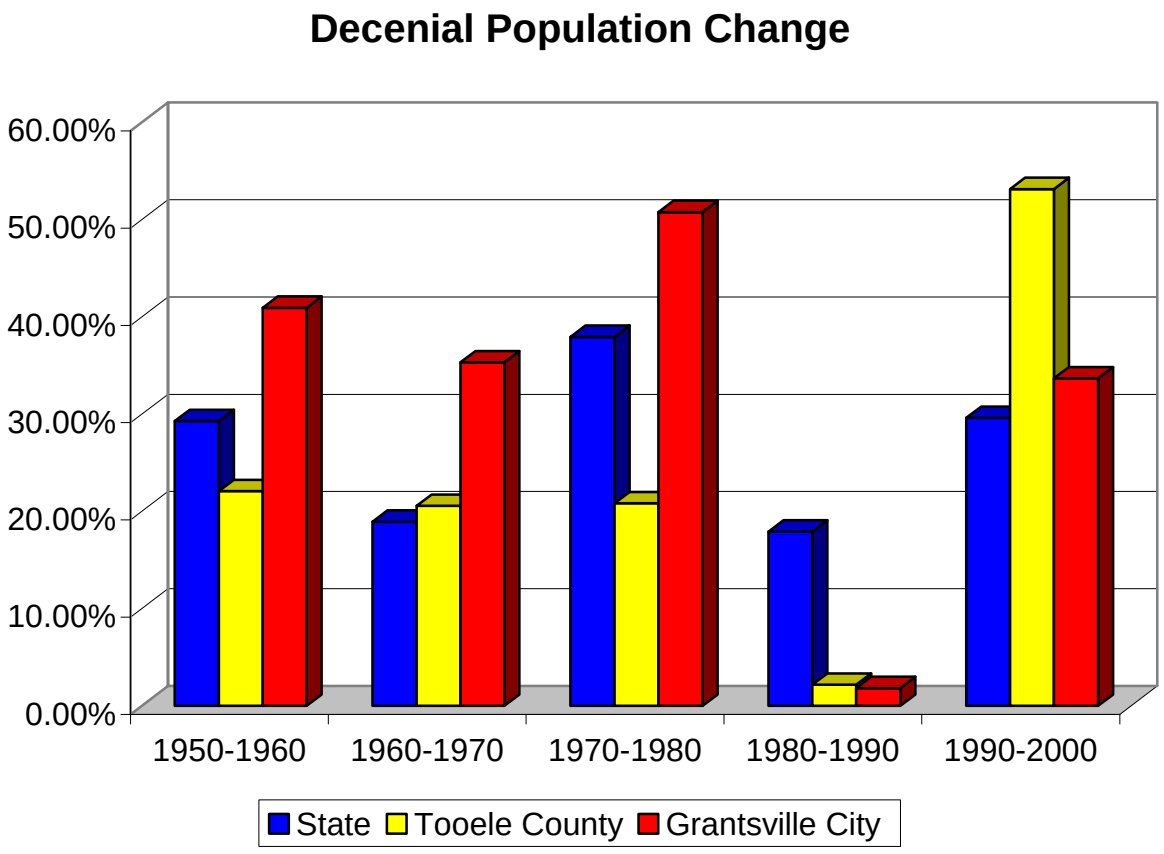
The 2000 median household income in Grantsville City is $45,614, compared to the State median household income of $45,726.

The unemployment rate in Grantsville City was 3.2 percent in 2000. According to the Utah Department of Employment Security (UDES), in 2000 there were approximately 2,570 employed people in Grantsville City or 64.1% of the population. The city has 130 unemployed people, which is 4.8% of the population. There are 18,073 employed people in Tooele County or 64.4% percent of the population. The county has 1,066 people unemployed, which is 5.6% of the population.

The majority of employees in Tooele County work in three primary employment sectors: Government, Trade and Services as shown in Chart 2-5. In the county, these sectors make up 68.24 % of the labor force. Another interesting note was that housing built from 1990-2000 were 26.8% of total for Grantsville City compared to 25% for the state. Also homes built before 1939 were 12.5% of the total for Grantsville City with 10% for the state.

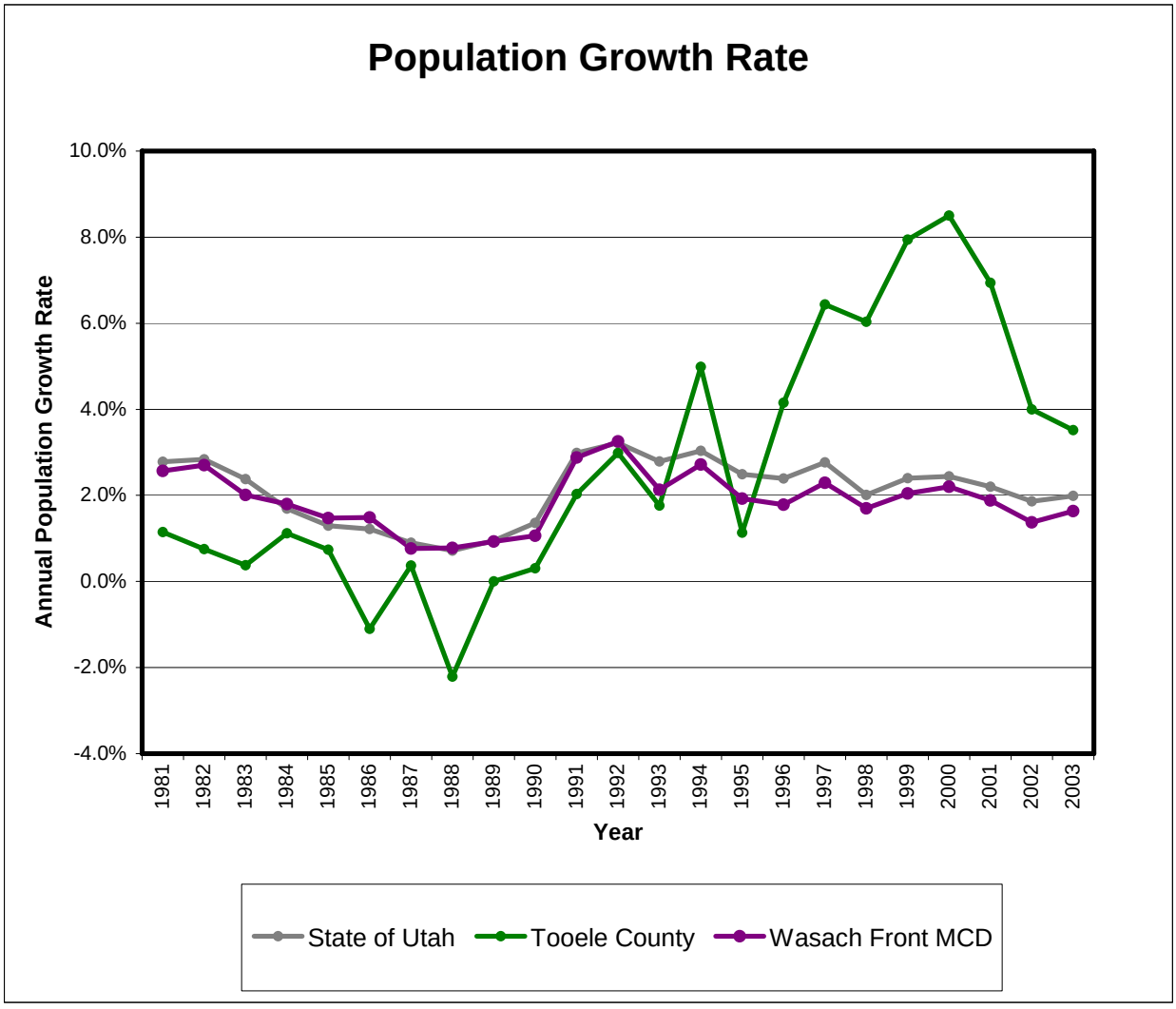
Chart 2-2. Population Change Data

Decade	State of Utah	Tooele County	Grantsville City
1950-1960	29.29%	22.08%	40.92%
1960-1970	18.94%	20.58%	35.32%
1970-1980	37.93%	20.83%	50.77%
1980-1990	17.92%	2.18%	1.83%
1990-2000	29.62%	53.13%	33.67%



Source Data: U.S. Bureau of the Census
http://www.govenor.utah./dea/OtherPublications.html

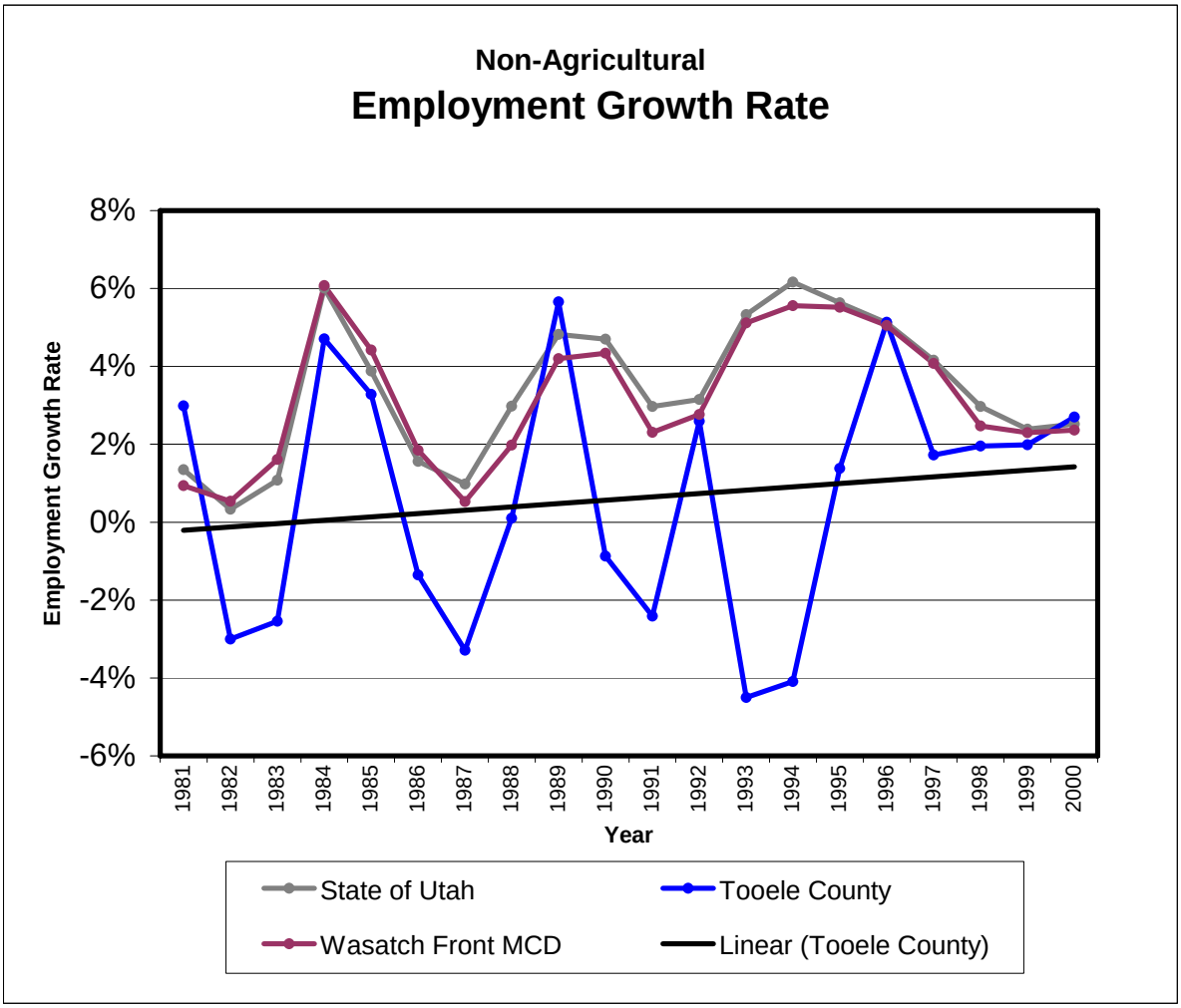
Chart 2-3. Population Growth Rate (1980-2000)



MCD = Multi-County Districts, Wasatch Front MCD = Davis, Morgan, Salt Lake, Tooele & Weber Counties

Source: Governors Office of Planning and Budget
http://www.governor.utah.gov/dea

Chart 2-4. Employment Growth Rate (1980-2000)



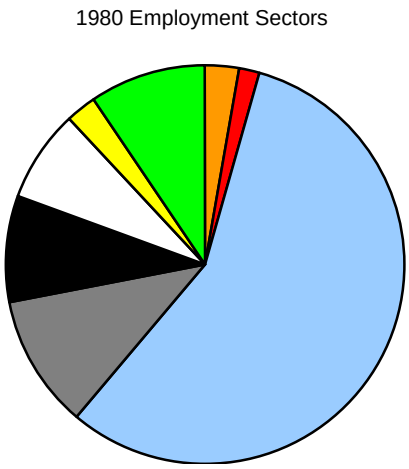
MCD = Multi-County Districts, Wasatch Front MCD = Davis, Morgan, Salt Lake, Tooele & Weber Counties

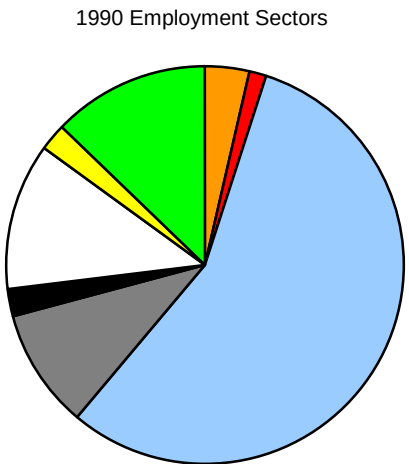
Source: Governors Office of Planning and Budget
http://www.governor.utah.gov/dea

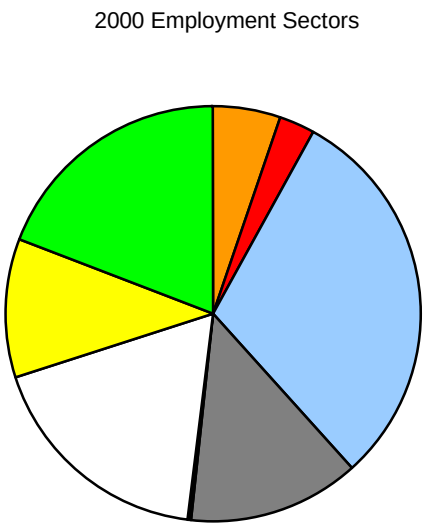
Chart 2-5. Employment Sectors (1980-2000)

Sector	1980	1990	2000	Δ% 1980-2000
Construction	2.70%	3.73%	5.43%	125.28%
FIRE	1.68%	1.28%	2.56%	71.26%
Government	57.78%	56.66%	30.70%	-40.46%
Manufacturing	11.00%	9.62%	13.24%	34.89%
Mining	8.89%	2.18%	0.36%	-95.48%
Services	7.52%	12.08%	18.30%	172.63%
TCPU	2.48%	2.44%	10.88%	391.50%
Trade	9.66%	12.74%	19.24%	123.18%

FIRE = Finance, Insurance & Real Estate
TCPU = Telecommunications & Public Utilities







Source: Governors Office of Planning and Budget
http://www.governor.utah.gov/dea/HistoricalData.html

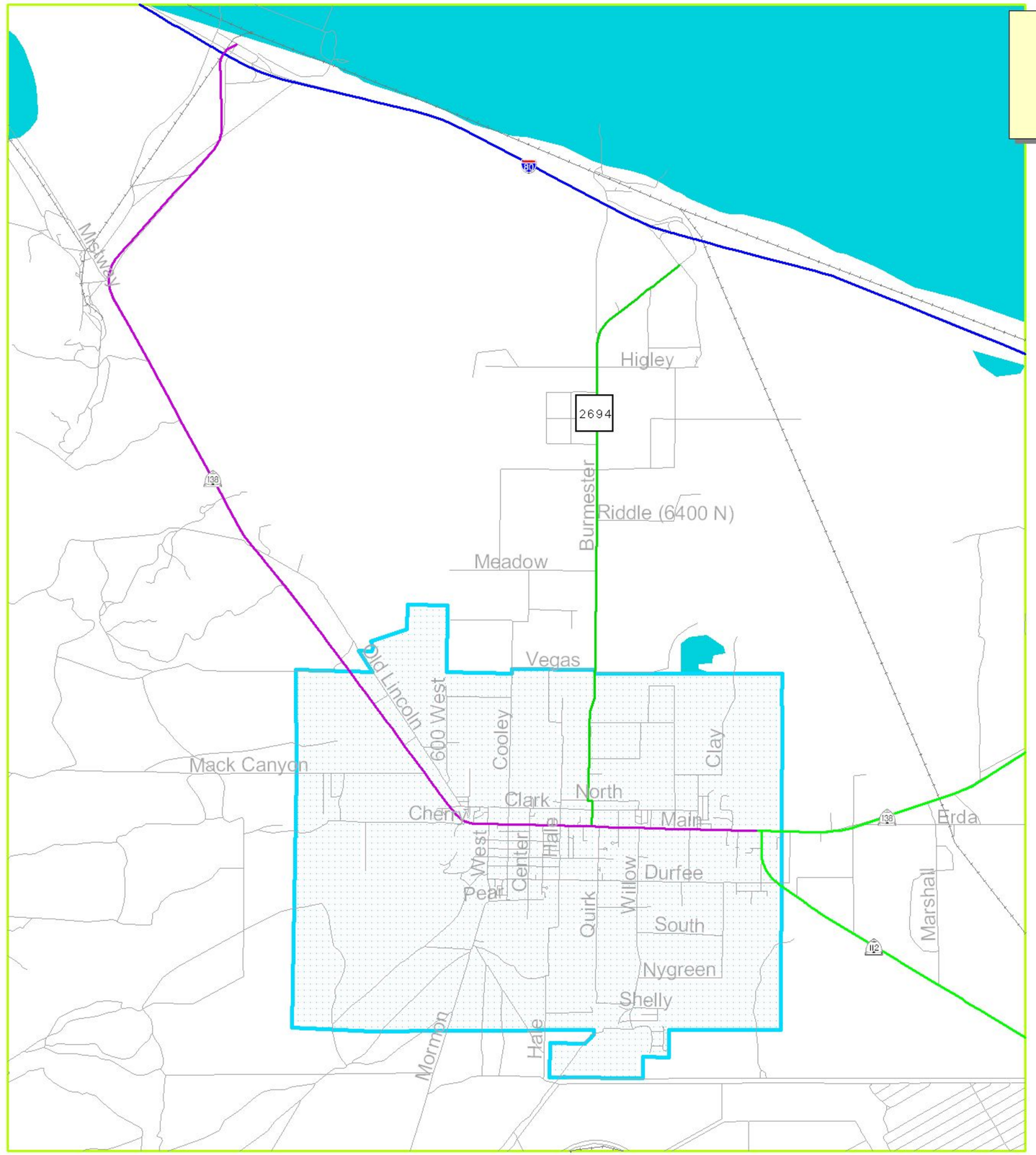
2.4. Functional Street Classification

This document identifies the current function and operational characteristics of the selected roadway network of Grantsville City. Functional street classification is a subjective means to identify how a roadway functions and operates when a combination of the roadway's characteristics are evaluated. These characteristics include; roadway configuration, right-of-way, traffic volume, carrying capacity, property access, speed limit, roadway spacing, and length of trips using the roadway.

The primary classifications used in classifying selected roadways of Grantsville City are: Interstate, Principle Arterial, Minor Arterial, Major Collector, Minor Collector and Local. An Arterial's function is to provide traffic mobility at higher speeds with limited property access. Traffic from the local roads is gathered by the Collector system, which provides a balance between mobility and property access trips. Local streets and roads serve property access based trips and these trips are generally shorter in length.

The Grantsville City area is accessed by SR-138 to I-80 as well as by SR-112. SR-138 bisects the City East to West. SR-112 travels east out of the city toward Tooele. The functionally classified system is currently being revised statewide. The current functionally classified system generally defines the higher traffic roads, so only minor additions or changes will be required.

Figure 2-2: Existing State and Federal Routes Classification



N

State Roads
- Interstate
- Minor Arterial
- Collector

Other Federally Classified Roads
- Minor Arterial
- Collector
- Local Roads
- Railroad
- Urban Boundary
- Study Boundary
- Water

0.5 0 0.5 1 1.5 2 Miles

2.5 Bridges

There are four bridges on the state system located in the study area that could be eligible for federal bridge maintenance, rehabilitation, or replacement funds. Bridges are maintained and minor repairs made with maintenance funds. A bridge is rehabilitated or replaced as it deteriorates over time and as traffic volumes increase. (Figure 2-3 Bridge Sufficiency Rating)

Table 2-1 compares the bridges in the study area and identifies their sufficiency rating and location. Sufficiency rating indicates current condition of the structure with a rating of 100 showing a structure that is in excellent shape. A rating nearing 50 will reveal a structure that is in need of attention and is eligible for federal funding.

Table 2-1. Bridges

Number	Location	Maximum Span	No. Lanes & Road Width	Sidewalk	Sufficiency Rating
2F-215	I-80, Stansbury Interchange (EBL)	29.3 M	2 Lanes, 13.5 M	No	82.7
4F-215	I-80, Stansbury Interchange (WBL)	29.3 M	2 Lanes, 13.5 M	No	94.8
2 F-216	I-80, Burmerster Interchange (EBL)	31.1 M	2 Lanes, 13.5 M	No	94.8
4 F-216	I-80, Burmerster Interchange (WBL)	31.1 M	2 Lanes, 13.5 M	No	94.8

Bridge Sufficiency Rating – Figure 10
Source: Utah Department of Transportation/Structures Division

2.6 Traffic Counts

Recent average daily traffic count data were obtained from UDOT. Table 2-2 shows the traffic count data on the key roadways of the study area. The number of vehicles in both directions that pass over a given segment of roadway in a 24-hour period is referred to as the average annual daily traffic (AADT) for that segment.

Table 2-2. Average Annual Daily Traffic

Road	Segment	Year	AADT
SR-138	Junction I-80 at Stansbury	2002	1,280
SR-138	North Incorporated Limits Grantsville	2002	7,735
SR-138	Junction SR-112 in Grantsville	2002	6,775
SR-138	East Incorporated Limits Grantsville Junction SR-36	2002	7,383

Source: Utah Department of Transportation

These are averages for the entire year. Grantsville City experiences a significant increase in traffic during the summer months. UDOT maintains 86 continuously operated automatic traffic recorders (ATR) throughout the state highway system. ATRs collect data continuously throughout the year in order to determine monthly, weekly, daily, and hourly traffic patterns**.** No ATR is located in or near the study area. The following points summarize the 2003 data from the ATR at this location.

A map illustrating existing and future traffic, peak season traffic, and roadway capacities is presented in the Traffic Forecast section 3.2.

2.7 Traffic Accidents

Traffic accident data was obtained from UDOT's database of reported accidents from 2002. Table 3 summarizes the accident statistics for those segments for the year 2002. Additional information includes the average daily traffic, the number of reported accidents, and the accident rates. The roadway segment accident rates were determined in terms of accidents per million vehicle miles traveled. The crash rates for each roadway segment are compared to the expected crash rate for similar facilities across the state.

Upon review of the accident data for the state system, there appears to be a higher than expected accident rates at the following locations:

- **On SR-138 From MP 12.2 to MP 12.33**

The remainder of the state system shows a lower than expected accident rate. Figure 2-4 shows accident data taken from 1999-2001, which shows various segments of the state highway system and associated accident data.

Grantsville City may wish to review the accident history for the local street system to identify any specific accident hot spot locations.

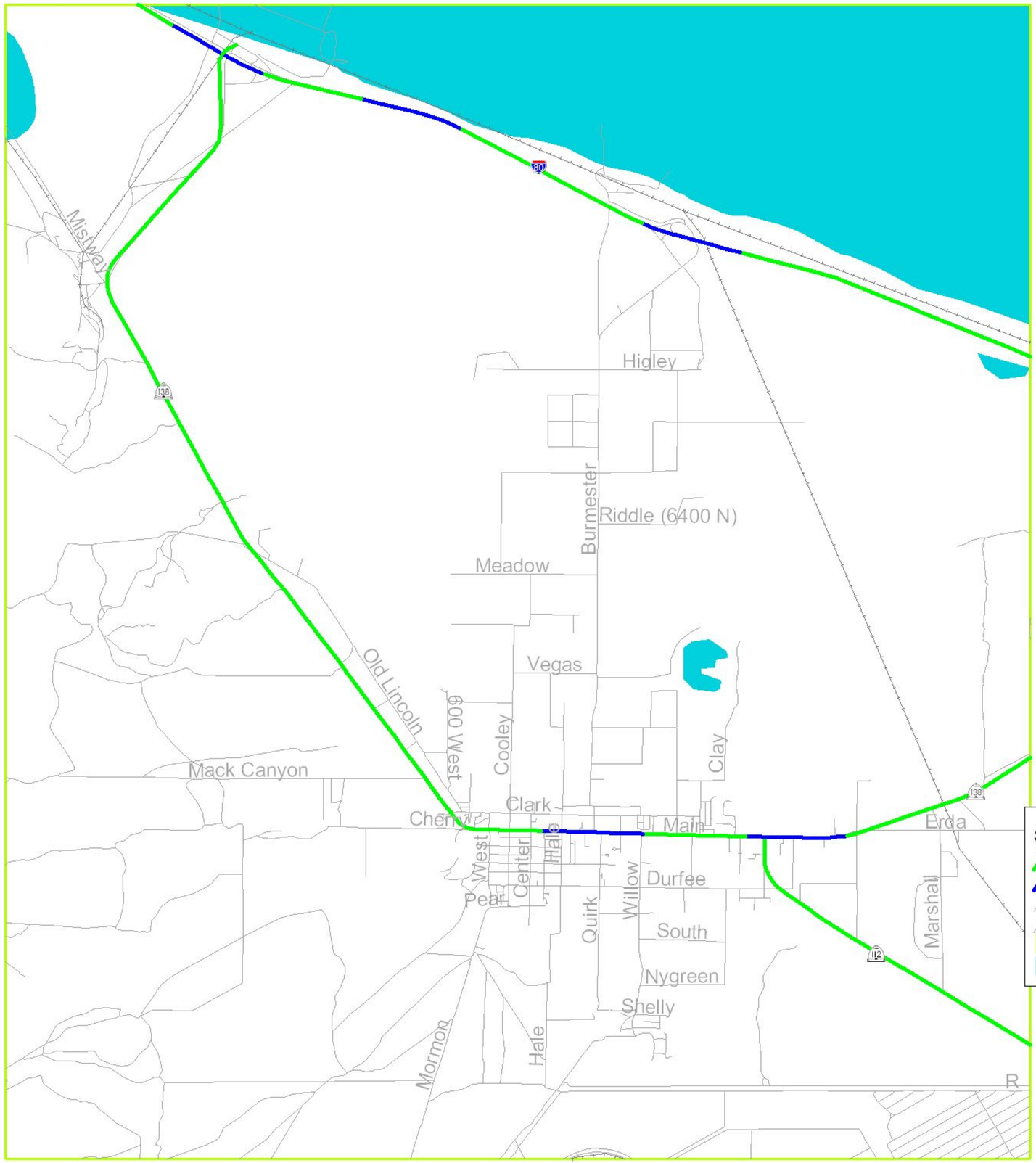
Table 2-3. Crash Data 2002

					Crash Rate	
Road	From Milepost	End Milepost	ADT (2002)	# Crashes (2002)	Actual	Expected*
80	81.75	83.58	9145	0	0.00	0.84
80	83.59	88.63	10695	9	0.47	0.95
80	88.64	92.25	12845	7	0.42	0.95
112	0	4	5055	9	1.26	2.12
138	0	4.29	1260	2	1.05	2.37
138	4.3	7.32	3965	3	0.71	1.98
138	7.33	9.04	7600	1	0.22	1.98
138	9.05	12.19	7080	13	1.54	1.98
138	12.2	12.33	6655	2	6.52	1.98
138	12.34	13.2	7255	2	0.84	1.98
138	13.21	15.25	7250	2	0.37	1.98

* Statewide average accident rates for functional class and volume group.

Red indicates higher than expected rates of accidents

Figure 2-4: State Road Crash Rates



2.8 Bicycle and Pedestrian

The Federal Highway Administration recognizes the increasingly important role of bicycling and walking in creating a balanced, intermodal transportation system, and encourages state and local governments to incorporate all necessary provisions to accommodate bicycle and pedestrian traffic. In following this directive, Grantsville City is encouraged to adopt a "complete streets" philosophy that allows for the advancement of a transportation system for both motorized and non-motorized travel.

2.8.1 Biking/Trails

The City's General Plan acknowledges the efforts to enhance the quality of life to those in the community by providing interconnected pathways and trails between neighborhoods. Grantsville City encourages the coordinated effort to build multiple-use trails on City owned property in addition to requiring developers to construct trails in new developments. The Grantsville Trails Master Plan is a well-defined document that establishes procedures to accomplish the goals laid out in the General Plan. The details of the different trails types are defined and connectivity with origin and destination points of various trails is recommended. The Plan identifies trails description, length, locations and possible constraints that may impact completion of a specific trail.

The roadways within Grantsville City are narrow and lack the necessary shoulder-width to safely accommodate bicyclists. With these types of street limitations, dedicated bike lanes are not currently found in Grantsville City. The City plans to address this issue, at least in part, by adding shoulders and markings on Willow Street, making it a more bicycle-friendly route. Mountain biking is not a common recreational activity in the Grantsville area, although there are occasions when cyclists will travel the dirt roads that lead to nearby BLM land.

The rural nature of Grantsville City makes ATV use an accepted practice for those in the community. With the realization that ATV use will continue, the City has identified the areas where ATV's are allowed, however, occasionally they are ridden in restricted areas. These types of incidents present safety concerns for the community, and law enforcement is used as a deterrent when necessary.

There are also a number of equestrians in the community and the City has acknowledged a desire to construct a trails system that will meet their needs. This is being addressed by requiring developers to include equestrian trails in developments zoned for larger lots. The trails system connecting each of these new developments will eventually continue on to adjacent BLM land.

The Utah Department of Health has designated numerous one-mile trails that are in place throughout the state. These signed trails are identified as Gold Medal Miles and are intended to encourage Utahns to become more physically active. One of the Gold Medal Miles is in Grantsville City, originating in the center of town. The paved designated trail is a one-mile loop that begins and ends at the corner of 200 South and Quirk Street.

2.8.2 Pedestrian

Sidewalks are in place in some parts of the City, but are most prevalent in the central area of town. The sidewalk conditions vary, depending on the length of time since construction. Although some sidewalks are in place, there is a need to complete the sidewalk system in order to provide a more walkable community. These incomplete locations are being remedied as funding becomes available. Through the Utah Department of Transportation's Safe Sidewalk Program the City recently installed new sidewalk along one side of Main Street, and there is additional funding available through this program to complete the other side of Main Street this year. This new construction includes features to make the sidewalks ADA compliant. The City also requires developers to include sidewalk in all new developments in order to better accommodate pedestrian traffic.

2.9 Public Transportation

Although there is no city bus system within the community itself, Grantsville is served by several commuter-oriented city bus routes operated by the Utah Transit Authority (UTA). UTA Routes 53 and 54 link downtown Grantsville with downtown Salt Lake City on a commuter-oriented schedule with buses running into Salt Lake in the mornings and returning to Grantsville in the evenings. These two routes operate as described Mondays through Fridays, with Route 53 operating between Grantsville and the Valley Fair Mall in West Valley City on Saturdays.

Additional UTA bus service is available to Grantsville area commuters via a Park-n-Ride stop at the Benson Grist Mill along State Route 36 in Stansbury Park, east of Grantsville. UTA Routes 51 and 75 link Tooele with downtown Salt Lake City via the Stansbury Park stop Mondays through Fridays, operating into Salt Lake City in the mornings and returning in the evenings.

A number of Greyhound intercity long-distance buses pass by Grantsville each day on Interstate 80, however, no stops are made in the Grantsville/Tooele Valley area. The nearest Greyhound stop is in downtown Salt Lake City. Likewise, Amtrak's daily "California Zephyr" passenger train passes by Grantsville late each night en route to and from the San Francisco Bay Area to Chicago via Salt Lake City, Denver and Omaha. The popular "Zephyr" does not stop in the Grantsville area, with the nearest Amtrak station also being located in downtown Salt Lake.

Scheduled airline service is available at the Salt Lake City International Airport

2.10 Freight

Although not located astride any major highway or railroad freight routes, Grantsville is located in relatively close proximity to several busy freight-transportation corridors. As such, Grantsville is becoming attractive to industries wishing to locate distribution facilities close to freight transportation but outside the expensive and crowded Wasatch Front population corridor.

The following primary highway freight corridors pass through the Grantsville area: Interstate Highway 80, which links northern California with Salt Lake City, the Midwest and east coast. State Route 36, a secondary freight route linking I-80 with U.S. Highway 6 via Tooele and Rush Valley. S.R. 138 passes through Grantsville proper and is the former alignment of transcontinental U.S. Highway 40 prior to I-80's completion to the north of town in 1970. S.R. 138 connects with I-80 northwest of Grantsville and with S.R. 36 northeast of town, which also connects with I-80 at Lakepoint. Lastly, State Route 112 links S.R. 138 just east of Grantsville with S.R. 36 in Tooele to the southeast.

The Grantsville area is served by two important railroad freight mainlines, both of which are owned and operated by the Union Pacific Railroad. East of Grantsville, along the base of the Oquirrh Mountains is the Union Pacific's "Salt Lake Route" mainline. Completed in 1905, this strategic route links the bustling port and industrial facilities of southern California with Salt Lake City and Ogden, along with Midwestern and eastern cities via UP's "Overland Route" mainline east of Ogden.

To the north of Grantsville, on the far side of I-80 is the former Western Pacific "Feather River Route" mainline between Salt Lake City and northern California. Completed in 1909, the WP was merged into the Union Pacific in 1982 and served as UP's main route to the San Francisco Bay Area until 1996. After UP took over the Southern Pacific in 1996, most through freight traffic between the Midwest and northern California was routed across the former SP "Overland Route" causeway across the Great Salt Lake west of Ogden. Since 1996, the ex-WP line passing Granstville has been used by local freight trains serving area industries, Burlington Northern Santa Fe freight trains running from Colorado to California via trackage rights over the UP, and Amtrak's "California Zephyr" passenger train.

Small freight switching facilities are maintained by the UP along the former WP line at Burmester, northwest of Grantsville, and on the Salt Lake Route mainline in Tooele, southeast of town. UP's primary freight yards and switching terminals for the region are found in Salt Lake City. Grantsville's nearest airfreight service is located at the Salt Lake City International Airport, located 26 miles to the east along Interstate Highway 80.

The major freight generating industry in the Grantsville area is the new Wal-Mart Distribution Warehouse located along S.R. 138 two miles northwest of town. Currently about 250 trucks serve the Wal-Mart facility each day, which will eventually increase to about 1,000 trucks daily. The majority of trucks serving the Wal-Mart complex use S.R.138 to and from nearby I-80 and do not pass through the town of Grantsville.

In 2004 Grantsville City established a zoned industrial park along Burmester Highway about one mile north of town. Trucks coming off I-80 at Exit 88 serve the Grantsville Industrial

Park, however some truck traffic does come into town via Burmester Road and North Street. Other truck traffic within Grantsville consists primarily of local delivery trucks as well as a relatively small number of long-distance trucks passing through the community en route from I-80 to S.R. 36 in Tooele via Grantsville and S.R. 112.

2.11 Aviation Facilities & Operations

There is no airport within the study area for the Grantsville Transportation Master Plan, the Tooele Valley Airport is located about five miles east of town. Also known as Bolinder Field, the Tooele Valley Airport is owned and operated by the Salt Lake Airport Authority and serves as a General Aviation reliever airfield for Salt Lake International Airport.

Located at an elevation of 4316 feet, Tooele Valley Airport is equipped with a single, north/south aligned runway, #17/35, which is 6100 feet in length and 100 feet in width. Tooele's single, asphalt-paved runway is paralleled by a paved taxiway, and the airport is equipped with a dusk-to-dawn illuminated beacon light. Runway 17/35 is equipped with pilot-activated medium-intensity lighting, in addition to Precision Approach Path Indicator (PAPI) lights. A Non-Directional Beacon (NDB) is also available, which supports the non-precision approach to the Tooele Valley Airport. A GPS approach system is also in place at the Tooele Valley Airport.

Among the services found at Tooele Valley Airport is automated weather information for pilots (AWOS), aircraft fuel (100 Low Lead), aircraft maintenance and repairs, and a pilot lounge. Future plans call for the installing of a full Instrument Landing System (ILS) in 2006. No airline or air cargo operations are provided at Tooele Valley Airport, and the nearest such services to Grantsville are at the Salt Lake City International Airport, which is 26 miles to the northeast.

2.12 Revenue

Maintenance of existing transportation facilities and construction of new facilities come primarily from revenue sources that include the Grantsville City general fund, federal funds and State Class C funds.

Financing for local transportation projects consists of a combination of federal, state, and local revenues. However, this total is not entirely available for transportation improvement projects, since annual operating and maintenance costs must be deducted from the total revenue. In addition, the City is limited in their ability to subsidize the transportation budget from general fund revenues.

2.12.1 State Class B and C Program

The distribution of Class B and C Program monies is established by state legislation and is administered by the State Department of Transportation. Revenues for the program are

derived from State fuel taxes, registration fees, driver license fees, inspection fees, and transportation permits. Twenty-five percent of the funds derived from the taxes and fees are distributed to cities and counties for construction and maintenance programs.

Class B and C funds are allocated to each city and county by the following formula: 50% based on the population ratio of the local jurisdiction with the population of the State, 50% based on the ratio that the Class B roads weighted mileage within each county and the class C roads weighted mileage within each municipality bear to the total class B and Class C roads weighted mileage within the state. Weighted means the sum of the following: (i) paved roads multiplied by five; (ii) graveled road miles multiplied by two; and (iii) all other road types multiplied by one. (Utah Code 72-2-108) For more information go to UDOT's homepage @ www.udot.utah.gov, tab on "Doing Business" select the tab for "Local Government Assistance" here you will find the Regulations governing Class B&C funds

The table below identifies the ratio used to determine the amount of B and C funds allocated.

Apportionment Method of Class B and C Funds

Based on	Of
50%	Roadway Mileage *Based on Surface Type Classification (Weighted Measure) Pave Road (X 5) Graveled Road (X 2) Other Road (X 1)
50%	Total Population

Class B and C funds can be used for maintenance and construction of highways, however thirty percent of the funds must be used for construction or maintenance projects that exceed $40,000. Class B and C funds can also be used for matching federal funds or to pay the principal, interest, premiums, and reserves for issued bonds.

Grantsville City received $ 263,983.99 in 2003 for its Class C fund allocation.

2.12.2 Federal Funds

There are federal monies that are available to cities and counties through federal-aid program. The funds are administered by the Utah Department of Transportation. In order to be eligible, a project must be listed on the five-year Statewide Transportation Improvement Program (STIP).

The Surface Transportation Program (STP) provides funding for any road that is functionally classified as a collector street or higher. STP funds can be used for a range of projects including rehabilitation and new construction. The Joint Highway Committee programs a portion of the STP funds for projects around the State for urban areas. A portion of the STP funds can be used in any area of the State, at the discretion of the State Transportation Commission.

Transportation Enhancement funds are allocated based on a competitive application process. The Transportation Enhancement Advisory Committee reviews the applications and then a portion of those are recommended to the State Transportation Commission for funding. Transportation enhancements include 12 categories ranging from historic preservation, bicycle and pedestrian facilities to water runoff mitigation. Other funds that are available are State Trails Funds, administered by the Division of Wildlife Resources.

The amount of money available for projects specifically in the study area varies each year depending on the planned projects in UDOT's Region Two. As a result, federal aid program monies are not listed as part of the study area's transportation revenue.

2.12.3 Local Funds

Grantsville City, like most cities, has utilized general fund revenues in its transportation program. Other options available to improve the City's transportation facilities could involve some type of bonding arrangement, either through the creation of a redevelopment district or a special improvement district. These districts are organized for the purpose of funding a single, specific project that benefits and identifiable group of properties. Another source is through general obligation bonding arrangements for projects felt to be beneficial to the entire entity issuing the bonds.

2.12.4 Private Sources

Private interests often provide alternative funding for transportation improvements. Developers construct the local streets within the subdivisions and often dedicate right-of-way and participate in the construction of collector or arterial streets adjacent to their developments. Developers can be considered as an alternative source of funds for projects because of the impacts of the development, such as the need for traffic signals or street widening. Developers should be expected to mitigate certain impacts resulting from their developments. The need for improvements, such as traffic signals or street widening can be mitigated through direct construction or impact fees.

3. Future Conditions

3.1. Land Use and Growth

Grantsville City's Transportation Master Plan must be responsive to current and future needs of the area. The area's growth must be estimated and incorporated into the evaluation and analysis of future transportation needs. This is done by:

- Forecasting future population, employment, and land use;
- Projecting traffic demand;
- Forecasting roadway travel volumes;
- Evaluating transportation system impacts;
- Documenting transportation system needs; and
- Identifying improvements to meet those needs.

This chapter summarizes the population, employment, and land use projections developed for the project study area. Future traffic volumes for the major roadway segments are based on projections utilizing 20 years of traffic count history. The forecasted traffic data are then used to identify future deficiencies in the transportation system.

3.1.1 Population and Employment Forecasts

The Governor's Office of Planning and Budget develop population and employment projections. The current population and employment levels, as well as the future projections for each are shown for Grantsville and Tooele County in the following table.

Population and Employment

Year	City	County	
	Population	Population	Employment
2000	6,015	40,735	14,536
2030	9,478	97,055	28,566

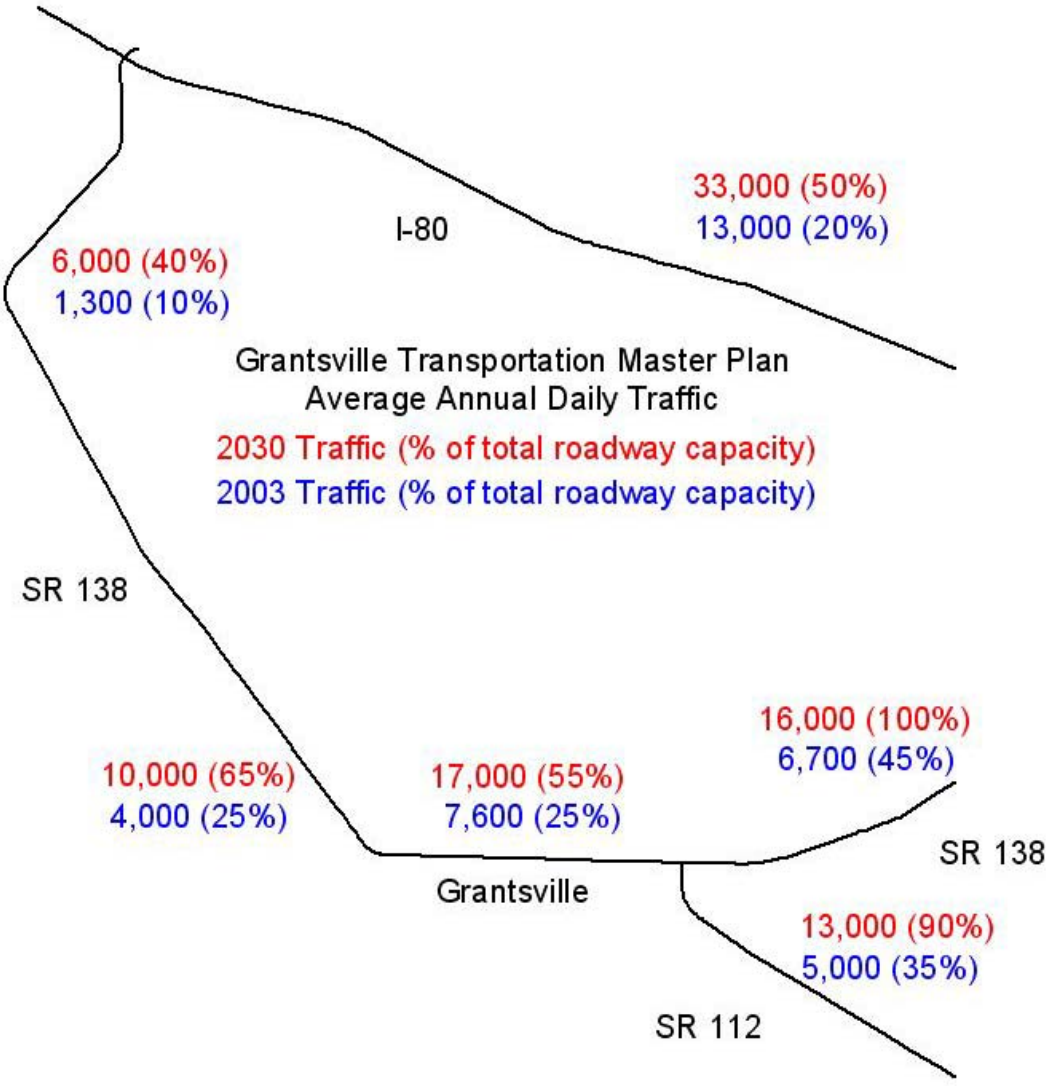
3.1.2 Future Land Use

The City has an annexation plan that describes where it plans to grow. Some areas for developments were discussed during the course of the Transportation Master Plan. Updated Land Use documents can be found in the Grantsville City General Plan.

While specific development plans change with time, it is important to note possible areas of development within the Grantsville area. Commercial and industrial growth is also important in understanding transportation needs.

3.2 Traffic Forecast

Traffic in the Grantsville area is growing and will continue to grow. Comparable to the population projections from the Governors Office of Planning and Budget, traffic has historically grown at about 3% to 5%. It is estimated that traffic volumes on downtown Main Street will grow about 4.5% per year. The potential for growth such as the Wal-Mart distribution center west of downtown will continue to add traffic at these high annual growth rates. The map below shows average annual daily traffic for years 2003 and 2030. Also shown is the percentage of the roadway capacity the traffic will reach. The map illustrates that a SR 138 and SR 112 east of town could have capacity issues by the year 2030 if historical trends continue. UDOT has programed improvements on SR 138 from the existing five-lane section to the SR 112 intersection within the next 5 years.



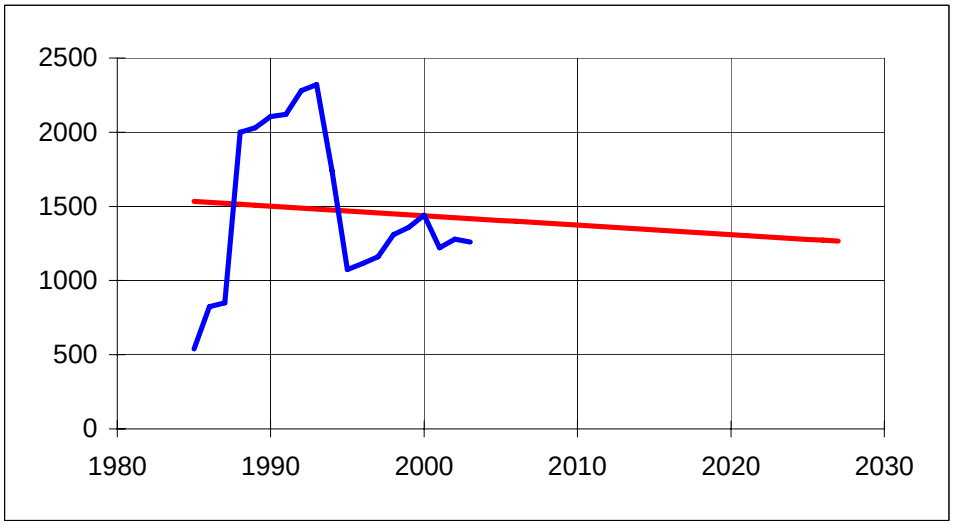
Route *SR 138*

Limits *West of Grantsville*

Year	AADT	Forecast
1985	540	1533
1986	825	1526
1987	850	1520
1988	2,000	1514
1989	2,030	1507
1990	2,105	1501
1991	2,120	1494
1992	2,280	1488
1993	2,320	1482
1994	1,740	1475
1995	1,075	1469
1996	1,115	1463
1997	1,160	1456
1998	1,310	1450
1999	1,360	1443
2000	1,441	1437
2001	1,220	1431
2002	1,280	1424
2003	1,260	1418
2004		1412
2005		1405
2006		1399
2007		1393
2008		1386
2009		1380
2010		1373
2011		1367
2012		1361
2013		1354
2014		1348
2015		1342
2016		1335
2017		1329
2018		1323
2019		1316
2020		1310
2021		1303
2022		1297
2023		1291
2024		1284
2025		1278
2026		1272
2027		1265

Projection based on 1985 to 2003 data

-0.4% growth rate ⟶ (6) vehicles/year



Notes

This future traffic projection is based on historical volumes. It should be used for comparison purposes only. The local Planning Organization will have a more analytical future traffic projection.

3/3/2006

Route *SR 138*

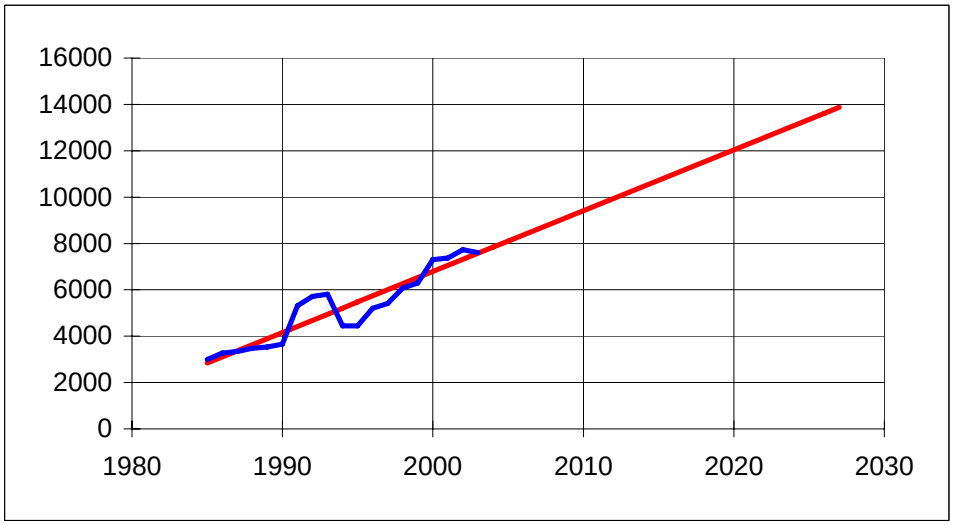
Limits *Downtown Grantsville*

Year	AADT	Forecast
1985	3,000	2848
1986	3,275	3110
1987	3,340	3373
1988	3,480	3636
1989	3,530	3898
1990	3,655	4161
1991	5,315	4423
1992	5,720	4686
1993	5,810	4949
1994	4,440	5211
1995	4,450	5474
1996	5,200	5737
1997	5,405	5999
1998	6,080	6262
1999	6,300	6524
2000	7,305	6787
2001	7,375	7050
2002	7,735	7312
2003	7,600	7575
2004		7838
2005		8100
2006		8363
2007		8625
2008		8888
2009		9151
2010		9413
2011		9676
2012		9939
2013		10201
2014		10464
2015		10726
2016		10989
2017		11252
2018		11514
2019		11777
2020		12040
2021		12302
2022		12565
2023		12827
2024		13090
2025		13353
2026		13615
2027		13878

5% Heavy Trucks
5% Single Unit Trucks

Projection based on 1985 to 2003 data

3.7% growth rate → 263 vehicles/year



Notes

This future traffic projection is based on historical volumes. It should be used for comparison purposes only. The local Planning Organization will have a more analytical future traffic projection.

3/3/2006

Route *SR 138*

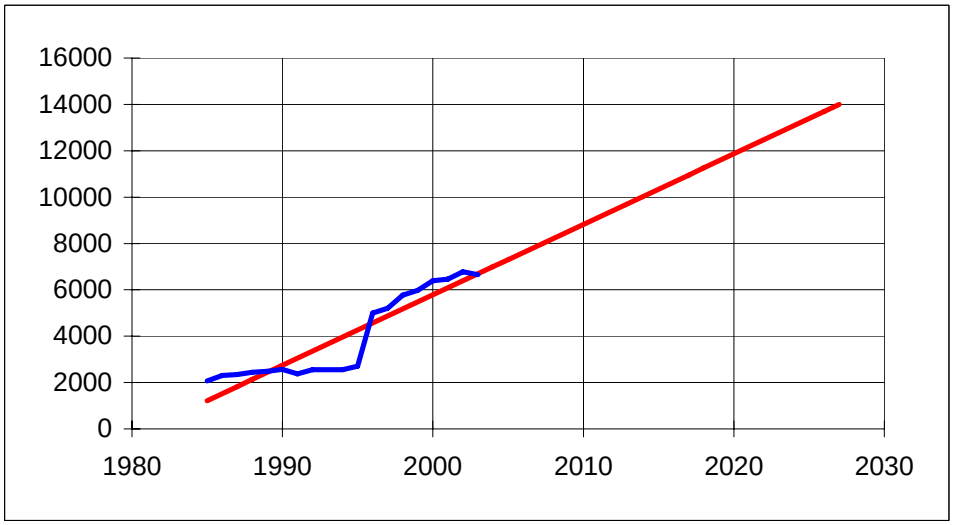
Limits *East of Grantsville*

Year	AADT	Forecast
1985	2,075	1221
1986	2,300	1525
1987	2,345	1829
1988	2,445	2133
1989	2,480	2437
1990	2,570	2742
1991	2,375	3046
1992	2,555	3350
1993	2,555	3654
1994	2,555	3958
1995	2,710	4262
1996	5,000	4566
1997	5,200	4871
1998	5,772	5175
1999	5,980	5479
2000	6,398	5783
2001	6,460	6087
2002	6,775	6391
2003	6,655	6696
2004		7000
2005		7304
2006		7608
2007		7912
2008		8216
2009		8521
2010		8825
2011		9129
2012		9433
2013		9737
2014		10041
2015		10346
2016		10650
2017		10954
2018		11258
2019		11562
2020		11866
2021		12170
2022		12475
2023		12779
2024		13083
2025		13387
2026		13691
2027		13995

5% Heavy Trucks
5% Single Unit Trucks

Projection based on 1985 to 2003 data

5.0% growth rate → 304 vehicles/year



Notes

This future traffic projection is based on historical volumes. It should be used for comparison purposes only. The local Planning Organization will have a more analytical future traffic projection.

3/3/2006

Route *SR 112*

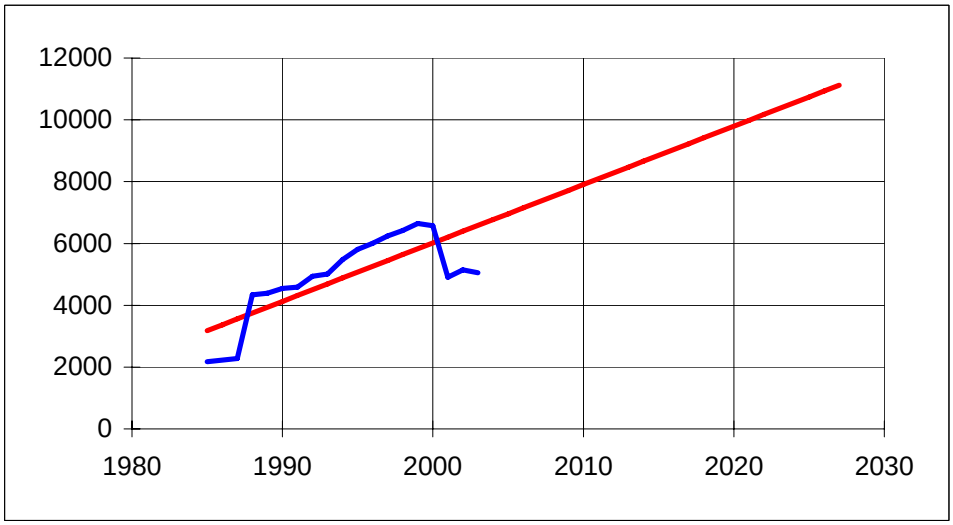
Limits *South of Grantsville*

Year	AADT	Forecast
1985	2,170	3181
1986	2,225	3370
1987	2,280	3559
1988	4,335	3748
1989	4,395	3937
1990	4,550	4126
1991	4,585	4315
1992	4,935	4504
1993	5,015	4693
1994	5,475	4882
1995	5,805	5071
1996	6,005	5260
1997	6,245	5449
1998	6,415	5638
1999	6,645	5827
2000	6,570	6016
2001	4,905	6205
2002	5,145	6394
2003	5,055	6583
2004		6772
2005		6961
2006		7150
2007		7339
2008		7528
2009		7717
2010		7906
2011		8095
2012		8284
2013		8473
2014		8662
2015		8851
2016		9040
2017		9229
2018		9418
2019		9607
2020		9796
2021		9985
2022		10174
2023		10363
2024		10552
2025		10741
2026		10930
2027		11119

5% Heavy Trucks
5% Single Unit Trucks

Projection based on 1985 to 2003 data

3.0% growth rate → 189 vehicles/year



Notes

This future traffic projection is based on historical volumes. It should be used for comparison purposes only. The local Planning Organization will have a more analytical future traffic projection.

3/3/2006

4 Planning Issues and Guidelines

Provided below is a discussion of various issues with a focus on elements that promote a safe and efficient transportation system in the future.

4.1 Guidelines and Policies

These guidelines address certain areas of concern that are applicable to Grantsville's Transportation Master Plan.

4.1.1 Access Management

This section will define and describe some of the aspects of Access Management for roadways and why it is so important. Access Management can make many of the roads in a system work better and operate more safely if properly implemented. There are many benefits to properly implemented access management. Some of the benefits follow:

- Reduction in traffic conflicts and accidents
- Reduced traffic congestion
- Preservation of traffic capacity and level of service
- Improved economic benefits businesses and service agencies
- Potential reductions in air pollution from vehicle exhausts

4.1.1.1 Definition

Access management is the process of comprehensive application of traffic engineering techniques in a manner that seeks to optimize highway system performance in terms of safety, capacity, and speed. Access Management is one tool of many that makes a traffic system work better with what is available.

4.1.1.2 Access Management Techniques

There are many techniques that can be used in access management. The most common techniques are signal spacing, street spacing, access spacing, and interchange to crossroad access spacing. There are various distances for each spacing, dependant upon the roadway type being accessed and the accessing roadway. UDOT has developed an access management program and more information can be gathered from the UDOT website and from the Access Management Program Coordinator.

4.1.1.3 Where to Use Access Management

Access Management can be used on any roadway. In some cases, such as State Highways, access management is a requirement. Access management can be used as an inexpensive way to improve performance on a major roadway that is increasing in

volume. Access management should be used on new roadways and roadways that are to be improved so as to prolong the usefulness of the roadway.

4.1.2. Context Sensitive Solutions

Context Sensitive Solutions (CSS) addresses the need, purpose, safety and service of a transportation project, as well as the protection of scenic, aesthetic, historic, environmental and other community values. CSS is an approach to transportation solutions that find, recognize and incorporate issues/factors that are part of the larger context such as the physical, social, economic, political and cultural impacts. When this approach is used in a project the project become better for all of the entities involved.

4.1.3. Recommended Roadway Cross Sections

Cross sections are the combination of the individual design elements that constitute the design of the roadway. Cross section elements include the pavement surface for driving and parking lanes, curb and gutter, sidewalks and additional buffer/landscape areas. Right-of-way is the total land area needed to provide for the cross section elements. Figure 4.1 identifies several suggested types of cross sections.

The design of the individual roadway elements depends on the intended use of the facility. Roads with higher design volumes and speeds need more travel lanes and wider right-of-way than low volume, low speed roads. The high use roadway type should include wider shoulders and medians, separate turn lanes, dedicated bicycle lanes, elimination of on street parking, and control of driveway access. For most roadways, an additional buffer area is provided beyond the curb line. This buffer area accommodates the sidewalk area, landscaping, and local utilities. Locating the utilities outside the traveled way minimizes traffic disruption in utility repairs or changes in service are needed.

Federal Highway standard widths apply on the all roads that are part of the state highway system. Also, all federally funded roadways in Grantsville City and Tooele County must adhere to the same standards for widths and design.

4.2 Bicycles and Pedestrians

4.2.1 Bicycles/Trails

Bicycles are allowed on all roadways, except where legally prohibited, and as such should be a consideration on all roads that are being designed and constructed, and as roadway improvements are taking place. To increase the level of interest in bicycling in the Grantsville area, the City should continue to require developers to include separate bicycle/pedestrian pathways in all new developments. Opportunities to include bike lanes and increased shoulder width in conjunction with a roadway project should be taken whenever technically, environmentally, and financially feasible.

The City is encouraged to complete the trails identified in the Trails Master Plan, as referenced in Chapter 2 of this document. It is important to note that regardless of the

trails system's function, as the bike/trail facilities are planned, designed and constructed, the City should review the connectivity of the system. With input from the community, a review of the connectivity of the trails should play an integral role in the decision making process for potential projects. In order to enhance the quality of life for those in the community, the trails should be accessible to all users and incorporate ADA requirements.

The trails, when constructed, may have slight variances in application type due to possible differences in the terrain at a specific trail location or differing user needs. However, regardless of the design type, the applicable design standards found in the latest version of the AASHTO Guide for the Development of Bicycle Facilities should be followed, as well as the Manual on Uniform Traffic Control Devices (MUTCD) guidelines for appropriate signage of the trails system.

4.2.2. Pedestrians

Every effort should be made to accommodate pedestrians throughout Grantsville City. An opportunity to include accessible sidewalks, while adhering to ADA requirements, during construction of other projects is encouraged. For the safety and convenience of pedestrian traffic, sidewalk placement should be free from debris and obstructions or impediments such as utility poles, trees, bushes, etc. The City should research and inventory their sidewalk system, and document locations where there may be gaps or safety concerns. Effort should then be made to construct and complete the sidewalks where gaps or problems occur. Grantsville City should continue to require developers to include sidewalk improvements in their projects plans, whether commercial or residential. To allow for pedestrian travel, the interconnectedness of the City's sidewalk system should be considered as all development takes place.

Sidewalks in residential areas should be at least 5-feet wide whenever adequate right-of-way can be secured. This will provide sufficient room and a level of comfort to persons walking in pairs or passing and will specifically allow for persons with strollers or in wheelchairs to pass. On major roadways, sidewalks at least 6-feet wide and with a 6 to 10-foot park strip are desirable. In pedestrian-focused areas, such as schools, parks, sports venues or theaters, and in hotel and market districts, even wider sidewalks are recommended to accommodate and encourage a higher level of pedestrian activity, especially where tourist use would be expected. To ensure consistency of sidewalks throughout the area, UDOT's approved standard for sidewalks should be followed, as well as the 2004 AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities.

The City should continue to utilize the UDOT's Safe Sidewalk Program when appropriate in constructing new sidewalks. Information on the Safe Sidewalk Program requirements is available through the Utah Department of Transportation's Traffic and Safety Division. The City should contact UDOT's Region Two office for application requirements.

The City should be aware of, and coordinate with, the area schools that are tasked with developing a routing plan to provide a safe route to school. The routing plan is to be reviewed and updated annually. Information regarding the Safe Routes to School program is available by contacting the Utah Department of Transportation's Traffic and Safety Division.

4.3 Enhancements Program

In 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA) created the Transportation Enhancement program. The program has since been reauthorized in subsequent bills (i.e. TEA-21). The Transportation Enhancement program provides opportunities to use federal dollars to enhance the cultural and environmental value of the transportation system. These transportation enhancements are defined as follows by TEA-21:

> The term 'transportation enhancement activities' means, with respect to any project or the area to be served by the project, any of the following activities if such activity relates to surface transportation: provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists, acquisition of scenic easements and scenic or historic sites, scenic of historic highway programs (including the provision of tourist and welcome center facilities), landscaping and other scenic beautification, historic preservation, rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals), preservation of abandoned railway corridors (including the conservation and use thereof for pedestrian or bicycle trails), control and removal of outdoor advertising, archeological planning and research, environmental mitigation to address water pollution due to highway runoff or reduce vehicle caused wildlife mortality while maintaining habitat connectivity, and establishment of transportation museums.

The Utah Transportation Commission, with the help of an advisory committee, decides which projects will be programmed and placed on the Statewide Transportation Improvement Program (STIP). Applications are accepted in an annual cycle for the limited funds available to UDOT for such projects. Information and Applications for the current cycle can be found on UDOT's homepage @ www.udot.utah.gov, tab on "Doing Business" select "Planning and Programming", here you will find a sub-topic entitled "Transportation Enhancement Program". Applications must be received by the UDOT Program Development Office, on or before the specified date to be considered. Projects will compete on a statewide basis.

4.4 Transportation Corridor Preservation

Transportation Corridor Preservation will be introduced as a method of helping Grantsville's Transportation Master Plan. This section will define what Corridor Preservation is and ways to use it to help the Transportation Master Plan succeed for the City.

4.4.1 Definition

Transportation Corridor Preservation is the reserving of land for use in building roadways that will function now and can be expanded at a later date. It is a planning tool that will reduce future hardships on the public and the city. The land along the corridor is protected for building the roadway and maintaining the right-of-way for future expansion by a variety of methods, some of which will be discussed here.

4.4.2 Corridor Preservation Techniques

There are three main ways that a transportation corridor can be preserved. The three ways are acquisition, police powers, and voluntary agreements and government inducements. Under each of these are many sub-categories. The main methods will be discussed here, with a listing of some of the sub-categories.

4.4.2.1 Acquisition

One way to preserve a transportation corridor is to acquire the property outright. The property acquired can be developed or undeveloped. When the city is able to acquire undeveloped property, the city has the ability to build without greatly impacting the public. On the other hand, acquiring developed land can be very expensive and can create a negative image for the City. Acquisition of land should be the last resort in any of the cases for Transportation Corridor Preservation. The following is a list of some ways that land can be acquired.

- Development Easements
- Public Land Exchanges
- Private Land Trusts
- Advance Purchase and Eminent Domain
- Hardship Acquisition
- Purchase Options

4.4.2.2 Exercise of Police Powers

Police powers are those ordinances that are enacted by a municipality in order to control some of the aspects of the community. There are ordinances that can be helpful in preserving corridors for the Transportation Master Plan. Many of the ordinances that can be used for corridor preservation are for future developments in the community. These can be controversial, but can be initially less intrusive.

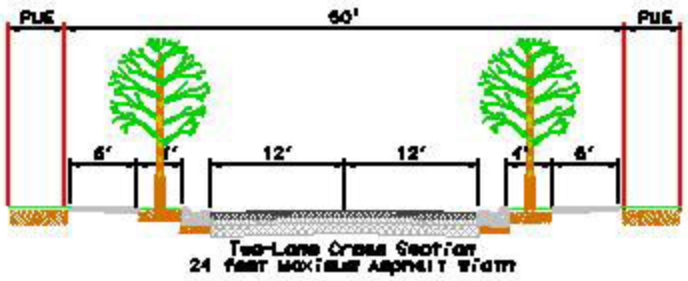
- Impact Fees and Exactions
- Setback Ordinances
- Official Maps or Maps of Reservation
- Adequate Public Facilities and Concurrency Requirements

4.5. Voluntary Agreements and Governmental Inducements

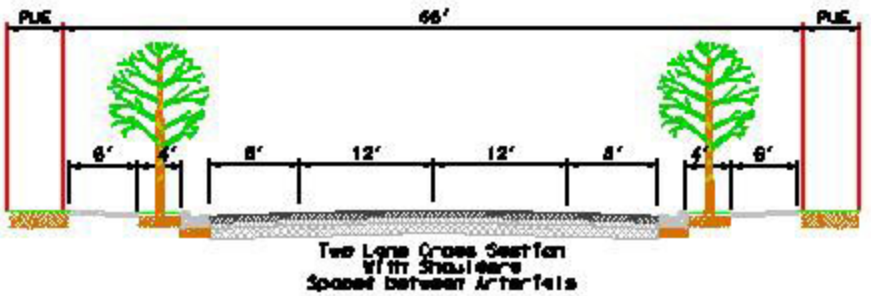
Voluntary agreements and governmental inducements rely on the good will of both the developers and the municipality. Many times it is a give and take situation where both parties could benefit in the end. The developer will likely have a better-developed area and the municipality will be able to preserve the corridor for transportation in and around the development. Listed below are some of the voluntary agreements and governmental inducements that can be used in order to preserve transportation corridors in the city limits.

- Voluntary Platting
- Transfer of Development Rights
- Tax Abatement
- Agricultural Zoning

Each of these methods has its place, but there is an order that any government should try to use. Voluntary agreements and government inducements should be used, if possible, before any police powers are used. Police powers should be tried before acquisition is sought. UDOT has developed a toolkit to aid in corridor preservation techniques. This toolkit contains references to Utah code and examples of how the techniques have been used in the past.

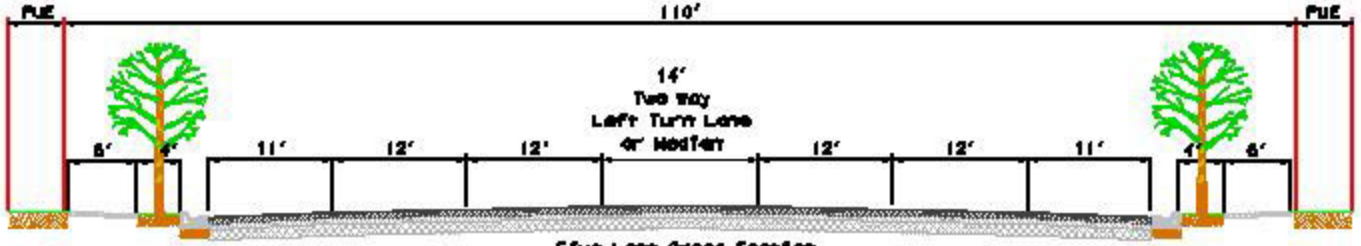


Two-Lane Cross Section
24 feet Maximum Asphalt Width



Two Lane Cross Section
With Shoulders
Spaced between Arterials

Three Lane Cross Section
With Shoulder
Spaced between Arterials



Five Lane Cross Section
With Sholders
Minimum spacing approximately ¼ mile

Notes:

1. Sidewalk Dimension varies from 4' to 6' (See UDOT Std Dwg 08 II Note 3)
2. Public Utility Easement (PUE) dimension varies from 2.5' to 12' Typical
3. Shoulder Dimensions:
   on 80' ROW - varies from 8' to 12'
   on 110' ROW - varies from 10' to 12'
   See AASHTO A Policy on Geometric Design of Highways and Streets

10 5 0 10 20 30

Scale in Feet

Suggested Typical Cross Section

Revised: September 16, 2004

5 Transportation Improvement Projects

5.1 Current Statewide Transportation Improvement Program (STIP)

At the present time there are several projects under consideration and investigation in the Grantsville City area. Currently in the STIP are the following Projects:

- Grantsville Bypass; SR-112 to Burmiester Road.

Also, this project is currently listed on the State of Utah's Long Range Plan, Utah Transportation 2030:

- Reconstruct SR-138 in Grantsville from Park Street to Main Street.

5.2 Recommended Projects

The following list identifies the eight projects that have been identified as having the highest priority to the Grantsville City Transportation Advisory Committee. These needs were identified through a series of meetings where the TAC identified the needs and set priorities for projects.

Additionally, many concerns and issues were identified which are found on the attached list.

- Gateway Project at the entrances to Grantsville on SR 138
- Realign intersection and signalize intersection of SR112 and Durfee Street
- Trail along the south side of Durfee Street
- Trail along Willow Street from Durfee Street to Willow Estates
- Traffic Signal at SR138 and Main Street

Transportation Needs and Cost Estimates

County	Route	Project Description / Concept State Highway Projects (LRP)	Start Point	End Point	Length or Quantity	Improvement	Estimated Project Unit Cost	Estimated Cost
		Gateway Project				Enhancement	$150,000	$250,000
		Local Highway Projects						
		By-Pass Road	SR-112	SR-138	5 Miles		$5,000,000	$5,000,000
		Pedestrian/ Bicycle Projects						
		Willow Street	Durfee Street	Main Street	2640 Feet	Sidewalk	$150,000	$80,000
		Clark Street	Hale Street	SR-138	1 Mile	Trail / Ribbon Curb	$180,000	$180,000
		Quirk Street	Cherry Street	Durfee Street	1500 Feet	Street widening / Trail	$150,000	$150,000
		Durfee Street	SR-112	Willow Street	7400 Feet	Sidewalk	$225,000	$225,000
		Durfee Street	Willow Street	Center Street	5700 Feet	Sidewalk	$175,000	$175,000
		Durfee Street	SR-112	Center Street	13100 Feet	Trail	$260,000	$260,000
		Willow Street	Durfee Street	South Willow Estates	1.2 Miles	Ribbon Curb	$20,000	$20,000
		Willow Street	Durfee Street	South Willow Estates	1.2 Miles	Trail	$125,000	$125,000
		Traffic Signals (ITS)						
		SR 112 / Durfee Street				Realign/Traffic Signal	$250,000	$250,000
		SR 112 / 800 East				Realign	$75,000	$75,000
		SR 112 / Main Street				Traffic Signal	$150,000	$150,000
		SR 138 / Center Street				Geometrics/Drainage	$100,000	$100,000
		SR138 / Quirk Street				Geometrics/Drainage	$100,000	$100,000
		SR138 / Clark Street				Realign/Traffic Signal	$250,000	$250,000
		SR138 / Hale Street				Geometrics/Drainage	$100,000	$100,000
		Studies						
		Burmester	Main Street	I-80		Access Management Plan		$50,000
		SR 138, East end of SR 138				Speed Study		$5,000
		SR 138, in front of Wal-Mart				Speed Study		$5,000
		Main Street	Clark Street	SR-112		Access Management Plan		$50,000
		SR-138 / SR-112				Signal Warrant Study		$10,000
		SR-138	I-80	Main Street		Access Management Plan		$50,000
						Estimated Total Needs Costs		$7,660,000

5.3 Revenue Summary

5.3.1 Federal and State Participation

Federal and State participation is important for the success of implementing these projects. UDOT needs to see the Transportation Master Plan so that they understand what the City wants to do with its transportation system. UDOT can then weigh the priorities of the city against the rest of the state. It is important for Grantsville City to promote projects that can be placed on UDOT's five-year Statewide Transportation Improvement Program (STIP) as soon as possible. The process for placing projects into the STIP and funding of these projects can be found at UDOT's homepage @ www.udot.utah.gov, tab on "Doing Business" select the tab for " Planning and Programming" here there is a subtopic entitled "Statewide Transportation Improvement Program (STIP)" that describes this program in detail. Additionally coordination with UDOT's Region Director and Planning Engineer will be practical.

5.3.2 City Participation

The City will fund the local Grantsville City projects. The local match component and partnering opportunities vary by the funding source.

5.4 Other Potential Funding

Previous sections of this chapter show significant shortfalls projected for the short-range and long-range programs. The following options may be available to help offset all or part of the anticipated shortfalls:

- Increased transportation impact fees.
- Increased general fund allocation to transportation projects.
- General obligation bonds repaid with property tax levies.
- Increased participation by developers, including cooperative programs and incentives.
- Special improvement districts (SIDs), whereby adjacent property owners are assessed portions of the project cost.
- Sales or other tax increase.
- State funding for improvements on the county roadway system.
- Increased gas tax, which would have to be approved by the State Legislature.
- Federal-aid available under one of the programs provided in the federal transportation bill (TEA-21 is the current bill; SAFETEA will likely be passed in late 2005).

Increased general fund allocation means that General Funds must be diverted from other governmental services and/or programs. General obligation bonds provide initial capital for transportation improvement projects but add to the debt service of the governmental agency. One way to avoid increased taxes needed to retire the debt is to sell bonds repaid with a portion of the municipalities' State Class monies for a certain number of years.

Participation by private developers provides a promising funding mechanism for new projects. Developers can contribute to transportation projects by constructing on-site improvements along their site frontage and by paying development fees. Municipalities commonly require developers to dedicate right-of-way and widen streets along the site frontage. A negative side of the on-site improvements is that the streets are improved in pieces. If there are not several developers adjacent to one another at the same time, a continuous improved road is not provided. One way to overcome this problem is for the jurisdiction to construct the street and charge the developers their share when they develop their property.

Another way developers can participate is through development fees. The fees would be based on the additional improvements required to accommodate the new development and would be proportioned among each development. The expenditure of additional funds provided by the fees would be subject to the City's spending limit. However, development fees are often a controversial issue and may or may not be an appropriate method of funding projects.